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OPPORTUNITIES IN THE EU MARKET FOR DRIED MANGO, MANGO PURÉE AND GARLIC FROM MALI

A STUDY CONDUCTED FOR INTEGRATED INITIATIVES FOR ECONOMIC GROWTH IN MALI (IICEM)
Contract: EDH-I-00-05-00005-03, Order No. 13

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Opportunities in the EU Market for Dried Mango, Mango Purée and Garlic from Mali

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ACRONYMS

ACP	Africa, Caribbean and Pacific
AgriBEE	Black Economic Empowerment legislation in Agriculture
APEDA	Agricultural and Processed Food Products Export Development Authority
BRC	British Retail Consortium
CEO	Chief Executive Officer
C&F	Carriage and Freight
DDT	DichloroDiphenylTrichloroethane
EU	European Union
EurepGAP	Euro-Retailer Produce working group's Good Agricultural Practices
FCOJ	Frozen Concentrated Orange Juice
FOB	Free on Board
HACCP	Hazard Analysis Critical Control Points
GDP	Gross Domestic Product
IICEM	Integrated Initiatives for Economic Growth in Mali project
IQF	Individually Quick Frozen (food processing)
ISO	International Organization for Standardization
NFC	Not From Concentrate
NGO	Non-Governmental Organization
MRL	Maximum Residue Levels
RSA	Republic of South Africa
SPS	Sanitary and Phytosanitary
UK	United Kingdom
UN	United Nations
USA	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VAT	Value Added Tax
WATH	West African Trade Hub

EXCHANGE RATES & ABBREVIATIONS

Abbreviations

USD	US dollar
€	Euro
ha	Hectare
kg	Kilogram
t	Tonne
km	Kilometre
l	Litre
ml	Millilitre

Exchange Rates (May 2010)

UK £ sterling	USD 1.45
Euro	USD 1.26
UK £ sterling	Euro 1.15

EXECUTIVE SUMMARY

In order to help Malian exporters, IICEM, a project funded by USAID and implemented by Abt Associates commissioned Accord Associates LLP to research the EU market opportunities for dried mango, mango purée and garlic. This assignment was undertaken in April and May 2010.

Dried mango - the EU market for dried fruit is large (870,000t/year worth USD2.3 billion/year; but only a small portion of this is dried mango (probably about 2,000t/year worth about USD13.8 million/year. Organic/fair-traded dried mango product is a small niche; no more than 10%, most of which originates from Burkina Faso. Most of the conventional dried mango comes from South Africa; who produce a much more consistent product. C&F prices for both organic and conventional are similar at about USD 6,900/t, which surprisingly means that there is no premium paid to the processor for the organic/fair trade label.

Some issues were identified in the supply base to the market; there were some reports that the that Burkina Faso was unable to meet the organic/fair-trade market demand and there were certainly structural problems in South Africa which makes it impossible for them to meet the conventional market demand. Some other countries are considering targeting the opportunity left by South Africa's inability to meet market demand, eg countries in South America, Ghana and even Burkina Faso.

Two strategic marketing opportunities were recommended for Mali. The first is to continue trying to target the organic/fair-trade market because there are a number of buyers who would like to receive samples for evaluation. However, a much more exciting opportunity would be to try and target the conventional market; probably by attracting technical and marketing expertise from South Africa. By working with existing South African processors, Malian processors would not only benefit from the transfer of managerial and technical skills, but would also have direct access to new and larger markets.

The medium-term target for organic/fair-trade product for Mali was estimated to be 50 to 75t which would generate a sales value of USD345,000 to 518,000/year. However, if the conventional market is favored, the medium to long term target could target 300 to 500t/year, with a value of USD 2 to 3.5 million/year.

Mango purée – the EU consumption of mango purée is estimated to be about 45,000t/year, most of it (34,000t) is supplied from India. Consumption of mango juice is increasing, but total sales only represent a small portion of the total fruit juice industry. The EU market is dominated by two Indian varieties, Alphonso and Totapuri; other suppliers are effectively benchmarked against these two varieties. Alphonso commands the highest prices and is used when the best taste profile is needed; when the taste standard is less demanding, Totapuri is used. The trade is always looking for alternative sources to India so as to spread risk. However, any new suppliers must be able to meet the Indian price and quality standards. The mango varieties that Mali currently grows will not deliver a purée quality comparable to Alphonso, so it will have to compete with Totapuri at the cheaper end of the market.

It is reported that the capacity for purée production in Mali is 15,000t of finished product per year; the EU market would not be able to absorb this quantity and therefore alternative markets will have to be found. The Middle East consumes more mango purée than the EU.

Given that Mali has no obvious comparative advantage for supplying mango purée to the EU, then it would be sensible to target no more than 5 to 10% market share in the medium term, ie 3,000 to 5,000t. Projected selling prices would be USD900 to 1,000/t.

Garlic – the world production and trade of garlic is dominated by China. It is the largest and cheapest supplier to the EU market, supplying about 50,000t of the 75,000t of imported each year. If Mali is to compete, it will have match Chinese prices and quality.

In order to import garlic into the EU, it is subject to the payment of the specific duty (€1,200/t) and the 9.6% ad valorem import duty. These levies were established to help protect the European growers. Based on historical imports, importers have a 50,000t/year quota to import garlic from China free of the specific duty.

Traditionally, market prices have been about US$ 2,000 to 2,500/t. However, recently, exports from China have declined which has lead to increased market prices and has also resulted in importers looking for fresh sources of supply, but logically it is likely that existing suppliers will increase their plantings. Alternatively, production in Bulgaria and the Balkans might become very competitive because being part of the EU, they are exempt from duty.

Market prices vary considerably due to quality and bulb size, but a guideline for Mali should be a C&F price of USD2,500 to 3,000/t; this would assume that all duties had been paid. Before any serious efforts are made develop garlic exports to Europe, it is important to seek confirmation of the prices any importer would offer and how they would address the issues of paying the 9.6% ad valorem import duty. It is also important that long-term guarantees are given so they will still buy even if current high European prices decline.

INTRODUCTION

1.1 BACKGROUND

a) The Assignment

The Integrated Initiatives for Economic Growth in Mali project (known as IICEM, for its French acronym) is funded by United States Agency for International Development (USAID). The project is implemented by Abt Associates in partnership with ACDI/VOCA, CARANA Corporation and Sheladia Associates. Among the project's objectives is to stimulate economic growth by increasing agricultural productivity, improving linkages to markets, and facilitating rural finance. As an activity to improve market linkages, IICEM has contracted Accord Associates LLP to research opportunities in the European market of specific products which might have commercial potential for export from Mali. The products chosen by IICEM to be researched were dried mango, mango purée and fresh garlic.

Accord Associates undertakes a range of marketing and agri-business projects in the developing countries. It was contracted in early April 2010 to undertake the assignment and the research was carried out in April and May 2010.

April and May 2010 was a particularly interesting time to undertake this market research. Without doubt the markets for many products in Europe had suffered during the economic crisis of 2009 and were starting to recover slowly. However, the rapid economic growth being experienced in India and China was also impacting on the markets. The European market for the products chosen by IICEM were all being impacted by a number of different, and often subtle, drivers which made the assignment very timely.

b) Agriculture in Mali

Mali is a large country (1.22 million sq km), but less than 4% of its land mass is cultivated. However, there is significant potential for irrigation. Agriculture in Mali is extremely important. To put it in perspective, it represents 45% of the country's gross domestic product (GDP) and employs 80% of its workforce. The main agricultural products include: cotton, millet, rice, corn, vegetables, peanuts, cattle, sheep and goats. By comparison, industry accounts for 17% of its GDP, with food processing, construction, phosphate and gold mining as the principal

industrial activities. The Services sector accounts for 38% of the country's GDP.

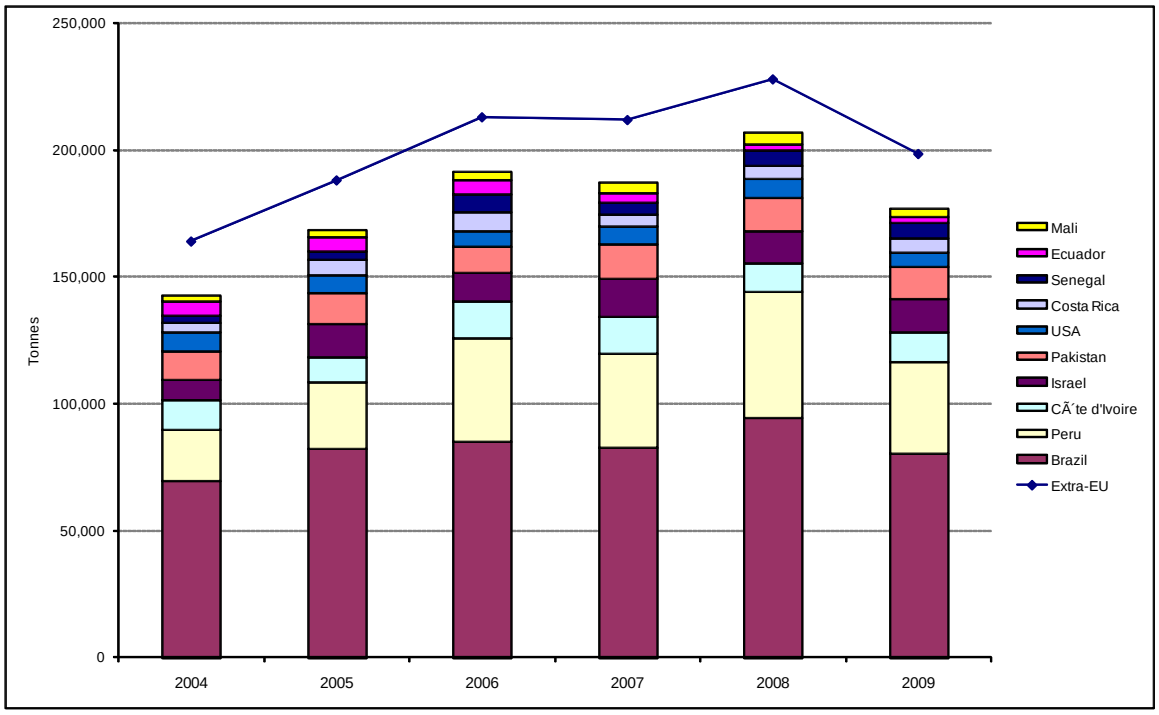
Mali borders seven other countries (see adjacent map). As a land-locked country, Mali is very dependent on the political stability and transport infrastructure of its neighbours for exports. Currently, most of the horticultural exports are freighted to Abidjan for sea freighting to Europe. An alternative route is through Senegal.

In some ways it would appear that developing exports from Mali in the competitive EU markets might be difficult. For example, according to the World Bank's *Doing Business* website, Mali was ranked 156th when comparing 183 of the world's economies[1]. Also, according to the 2009-2010 Global Competitive Report, Mali ranks 130th out of 133 countries, which is a decline from 117th out of 134 in 2008/09[2]. Therefore, in these surveys it would appear that Mali is not an attractive country to establish new export industries. However, it must be appreciated that Burkina Faso is rated 147th and 128th in the same two surveys and it has developed significant dried mango exports. In addition, Mali has proven that it can produce products and export to Europe; impressively, it has a very successful mango export trade to the European Union (EU) and is now ranked as the tenth biggest supplier to the EU. Mali's exports increased from 708t in 1996 to over 3,500t in 2009; although the 2008 data were considerably higher at almost 5,000t (Fig 1.1). It is also interesting to note that it is the only landlocked country among the top 10 suppliers to the EU. These data demonstrate that Mali can produce to the standards being demanded by EU buyers and, despite being landlocked; it can be competitive as a supplier to the EU. This is particularly import when talking to importers of dried mango, mango purée and garlic because it proves that the country has the understanding and capability of the standards demand by the major EU retailers and food manufacturers.

1 http://www.doingbusiness.org/economyrankings/

2 http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm

Fig 1.1 Imports of fresh and dried mango, guava and mangosteen to the EU-27, 2004 to 2009 (tonnes)



Source: *Accord Associates based on Eurostat data*

It must be noted that the import statistics analysed in Fig 1.1 include both fresh and dried mangoes as well as guava and mangosteen. It is not possible to disaggregate the dried mango data; therefore getting accurate and reliable data for its international trade is exceedingly difficult.

1.2 OBJECTIVES OF THE ASSIGNMENT

As stated above, the three products that are being researched are mango purée, dried mangoes and fresh garlic. The key objective of the assignment was to produce a detailed report on the EU market for each of the three products. This would be achieved as follows:

- Collating and analysing trade statistics and data from published reports to gain an understanding of the market.
- Interviewing a sample of the main actors in the marketing chain to gain a deeper understanding of the market opportunities.
- By analysing the trade interviews and the trade data, identify possible opportunities and niches for Mali to exploit, and estimate likely prices and share of the market they could attain.
- Understand the comparative position of Mali as a source for European buyers compared to the current and possible future suppliers to the EU.
- Report on any issues that might have to be overcome to facilitate Mali's competitive position.

The full terms of reference are given in Appendix 1.1.

1.3 THE EUROPEAN MARKET

For the purposes of this report, the market is regarded as the 27 member states of the EU. This market was created by the Treaty of Maastricht on 1 November 1993 and embraces over 500 million consumers and generates about 28% of the world's GDP. The EU has developed a single market through a standardised system of laws which apply in all member states and it maintains common policies on trade. While much effort has gone into unification of the member states over the last five years, the harmonisation is of course aimed at legislation and rules in order to allow the free movement of goods, services and people within the EU. The EU is not a single market in terms of consumer behaviour. The trade bloc stretches from the Mediterranean in the south to the Barents Sea in the north and encompasses a wide range of climatic, cultural and economic regions. Consumer behaviour and requirements are similarly diverse.

Within the EU, some member countries represent much larger markets than others, both in terms of buying power and the number of consumers. The research for this assignment concentrated mainly on the UK, France and Germany, which represents the largest markets in terms of consumers; traders were also interviewed in Holland because of its importance as an entrepôt and Switzerland is a particularly important organic market. Other blocs within the EU were not ignored, but less emphasis was placed on these smaller markets.

1.4 FREIGHT

Mali has built its mango exports on the basis of seasonality; its fruit ripen at a time when the EU is relatively under-supplied. Initially, the fruit were air freighted to EU, but as volumes increased, the fruit were exported by sea freight via either Abidjan or Dakar. The cost of freight from Mali to the EU is expensive; according to IICEM, it is about €7,000 per 40 foot container to ports in both Southern and Northern Europe. Even though this is costly, the value of fresh produce still allows exporters a profit. However, cost of freight has much more of an impact on the competitive position for processed, and hence non-seasonal, product such as mango purée and dried mango.

One of the reasons that freight from Mali to Europe is costly is that it has to be sent overland to a port. Data supplied by USAID-funded West Africa Trade Hub Project (WATH) estimate that the cost of moving containers from Bamako to Abidjan vary between €2,400 to 4,683 depending on the size of the container and whether cargo is refrigerated or held at ambient temperatures (Table 1.1). In addition, there might be extra costs of about USD100 associated with documentation etc. Compared with exporters from the Ivory Coast, Mali exporters have to pay considerably more to market their produce. These data clearly show how much extra is added to Mali's exports by the transport cost due to it being landlocked. Therefore, in order to compete, it will be imperative that it seeks to become more competitive in other areas, such as better quality, higher yields, more carefully targeted marketing.

Table 1.1 Transport costs for moving containers from Bamako to Abidjan

Size	Type	Cost	Max weight
20foot	dry	€2,400 (USD 3,024)	22t
40foot	dry	€4,126 (USD 5,199)	24t
20foot	reefer	€3,527 (USD 4,444)	22t
40foot	reefer	€4,683 (USD 5,901)	24t

***Source**: West African Trade Hub*

In an effort to compare cost of freight from Bamako with other countries to Northern Europe, quotations were gathered from two international transport companies. It is sometimes difficult to get companies to quote from landlocked countries; they will give prices from the nearest port and assume that the exporter will pay the cost to the port. The first quotations were supplied by Safmarine and the assumption was that the end destination was Felixstowe in the UK. There are always two elements to freight quotations, the cost of ocean travel and all the myriad of other costs such as handling, documentation, charges for using the Suez Canal etc. As Safmarine were not able to quote from Bamako, the transport overland costs supplied by WATH were added to the costs from Abidjan (Table 1.2). This quite clearly shows that Bamako is much more expensive than any of the other start destinations; it is even much more expensive than from Nairobi which includes a significant overland component. In fact, the surface transport costs from Bamako are much more expensive than the total cost of transport from any of the origins that were compared and represent about two-thirds of the total cost of the surface freight to the UK. Clearly the cost of moving product from Bamako to one of the neighbouring countries ports is a very major competitive disadvantage for Mali exports. Information supplied from IICEM suggested that the surface price from Bamako to Europe was about USD7,000 for a refrigerated container. Their information was that the price would be very similar for a dry container; but this would be a little bit cheaper than the estimate based on the Safmarine and WATH data.

Table 1.2 Surface transport costs for dry containers from different origins to Felixstowe, UK (USD)

Origin	Size	Ocean freight	Other costs	Total
Dakar	20foot	1,103	562	1,665
Dakar	40foot	1,985	896	2,881
Abidjan	20foot	1,103	444	1,547
Abidjan	40foot	1,985	704	2,689
Tema	20foot	1,103	592	1,695
Tema	40foot	1,985	954	2,939
Cape Town	20foot	1,100	896	1,996
Cape Town	40foot	2,050	1,453	3,503
Nairobi	20foot	1,700	1,092	2,792
Nairobi	40foot	3,050	1,807	4,857
Chennai	20foot	1,050	749	1,799
Chennai	40foot	2,000	1,196	3,196
Mumbai	20foot	1,900	764	2,664
Mumbai	40foot	1,900	1,234	3,134
Bamako	20foot	1,103	3,124+444	4,671
Bamako	40foot	1,985	5,299+704	7,988

***Source**: Accord Associates, based on Safmarine quotations, May 2010*

***Other costs** include documentation charges, handling fees, Suez Canal Transit Fees, Overland fees (Nairobi to Mombasa), Bunker Adjustment Factor, Carriage Security Charges, Congestion Surcharge etc.*

***Note**: the cost from Bamako to Felixstowe is based on the estimate obtained by WATH for Bamako to Abidjan added to the charges from Abidjan to Felixstowe.*

As the cost of freight from Bamako was so much higher than any of the comparison countries, quotes were also obtained from Maersk who were able to supply an estimate for the complete journey from Mali to the UK (Table 1.3). The quote was almost USD2,500t less than calculated above; but it was still significantly higher than other African destinations and China. It must be noted that costs of surface transport are volatile and dependent on exchange rates; and as the exchange rates between the main currencies change, they impact on the rates from the different destinations.

Table 1.3 Surface transport costs for dry containers from different origins to Felixstowe, UK (USD)

Origin	Size	Ocean freight	Inland freight	Other costs	Total
Abidjan	20foot	1,387		478	1,865
Abidjan	40foot	2,401		780	3,181
Cape Town	20foot	1,055		884	1,939
Cape Town	40foot	2,060		1,442	3,502
Nairobi	20foot	1,336	350	748	2,434
Nairobi	40foot	2,267	655	1,165	4,087
Shanghai	20foot	3,750		1,578	5,328
Shanghai	40foot	2,267		2,618	4,885
Bamako	20foot	1,357	1,458	532	3,347
Bamako	40foot	2,401	2,369	813	5,583

***Source**: Accord Associates, based on Maersk quotations, May2010*

***Other costs** include documentation charges, handling fees, Suez Canal Transit Fees, Bunker Adjustment Factor, Carriage Security Charges, Congestion Surcharge etc.*

In order to estimate the impact on Mali's competitiveness, it is assumed that 27t of product is placed in a 40 foot container. It is recognised that this will vary depending on the product and also the legal limit on roads in the receiving country. Exports from Mali are between UD100 and 200/t from Mali compared with other West African counties (Table 1.4). Whilst this difference may not be

important for higher unit value items such as dried mango, it could be significant with lower items such as mango purée and garlic.

Table 1.4 Effective freight rates to Felixstowe from different origins, USD/t

Origin	Based on quotations from	
	Safmarine	Maersk
Bamako	296	207
Abidjan	100	118
Dakar	107	
Tema	109	
Cape Town	130	130
Nairobi	180	151
Mumbai	116	
Chennai	118	
Shanghai		181

***Source**: Accord Associates, based on Safmarine and Maersk quotations, May 2010*

It would appear that Mali has a major competitive disadvantage in transport costs; most of it due to the overland costs. It is interesting to compare the road/rail costs from Bamako to Abidjan with Nairobi to Mombasa. In the Safmarine and Maersk data, they both allowed USD655/40 foot container for road transport from Nairobi to Mombasa, while the Maersk data for Bamako to Abidjan were USD1,900 for a similar sized container; in other words the cost was three times more expensive for a journey that was only about double the distance. It is also interesting to note that the estimate obtained by WATH was even more expensive. However, whether or not the estimates in Table 1.2 or 1.3 are used, the cost of transport from Bamako to Europe is much more expensive than the competition; it is recommended that IICEM attempts to gain a better understanding of the freight costs and works with freight forwarders and others to reduce the charges so the exporters are less disadvantaged. The WATH project is a USAID-funded project and it has transport specialists and perhaps they should be asked to help address this competitive disadvantage.

1.5 EXCHANGE RATES

In 2009 and 2010, there has been considerable volatility in international exchange rates. The following rates, which were applicable during May 2010, were used for conversions in this report.

UK £ sterling - USD 1.45

Euro - USD 1.26

UK £ sterling - Euro 1.15

DRIED MANGO

2.1 BACKGROUND

Given the success of fresh mango exports and the tradition of drying fruit for preserving and sale on the local market; it was a natural progression to investigate and support the opportunity for exports of dried mango. Therefore, the dried mango value chain is being supported by IICEM assisting with the organic certification of mango producers, the establishment of four drying units and the commercial exporting to Europe. The drying units consist of ovens to dry the mango pieces as well as facilities for sorting, grading and packing the dried fruit. To date, the quantities exported are very low; the project estimates 1t was exported in 2008, 8t in 2009 and it is hoped that 20t will be exported in 2010. All these exports have been through a Burkina Faso based company, Gebana Afrique, which markets through its head office in Switzerland.

The biggest consumption markets in the EU for dried mango are the UK, followed by Switzerland, Germany and France. The dried mango market can be broadly segmented into two; first, the retail market where it is sold in small packs for "snacking" and, secondly, for use as an ingredient in food manufacturing. These market segments will be discussed in more detail later, but it is important to note that by far the biggest is the retail segment; apart from small quantities sold for the manufacture of snack bars and in some breakfast cereals[3], the demand as a food ingredient is very small.

In order to understand the opportunities for dried mango in each of the market segments, it is worth considering the competitive position. In the case of the "retail snacking" market segment, it is an expensive alternative to other dried fruits and indeed nuts (Table 2.1). Dried mangoes are four to five times more expensive than sultanas, raisins and dates and about six times more than peanuts. Some of these other snack products are more free flowing and do not stick to each other; hence they are easier to eat, ie more of a convenient product. Therefore, it is not surprising that many retail customers find dried mangoes an expensive and slightly difficult-to-eat snack product. In the food manufacturing segment, buyers have found that dried mango is an expensive ingredient, its strong taste is not liked by the majority of consumers and, if mango pieces are needed in a specific recipe, many manufacturers would prefer to use Individually Quick Frozen (IQF) mango pieces as they are much simpler to handle.

3 There are a number of reasons why only small amounts of dried mango are used in the manufacture of breakfast cereals. First most breakfast cereals do not contain dried tropical fruit, it is just some mueslis. It is an expensive ingredient when compared with other fruit so it adds considerably to the costs. It has a strong taste and most cereal manufacturers prefer to make a slightly blander product.

Table 2.1 Wholesale prices of various "snacking" products, 2010 (€/kg)

DRIED FRUIT			
	Origin		**Price (€/kg)**
Sultanas	Turkishstandard No 9	cif UK	1.35
	SA orange River 2010 Crop	cif UK	3.19
Raisins	Californian Thompson seedless	cif UK	1.52
	S African Thompson seedless	cif UK	1.54
Apricots	Turkish Industrial Quality	cif UK	4.17
	Turkish whole pitted No 2 cif UK	cif UK	5.87
Dates	Iranian pitted Sayer	cif UK	1.08
Figs	Turkey Lerida Figs no 6/7	fob Izmir	2.75
Dried mangoes	Ex Burkino Faso	cif UK	6.50
	ex RSA	cif UK	5.50
NUTS			
Peanuts	38/42 Argentina runners 2010 crop	c&f NW Europe ports	0.99
Almonds	23/25 US non Pareil select	cif European main	4.68
Cashew	320s	Spot UK	5.53
Hazelnuts	Standard 1 (13/15) Turkish Levants	c&f NW Europe ports	4.17
Walnuts	India light halves	ex-store UK duty paid	4.91

***Source**: Accord Associates based on Public Ledger data, 10 May 2010, except for dried mango which was based on trade interviews*

It is important to recognise that basically three distinct types of dried mango products are sold in Europe. These are:

- **"Conventionally" dried mango –** this is the product which dominates the EU market for dried mango and most of it comes from South Africa, with smaller amounts coming from Brazil and Thailand. The product makes no claim to be organic; it contains sulphur, which is important for preserving its colour, and has been dried to 14 to 23% moisture content. Most of this conventional product is packed in very good packaging at source. It is interesting to note that consumers regard this product as a "relatively healthy and natural product, because no sugar has been added"[4]. The relatively high moisture content of the fruit and the excellent quality packaging has gained this product access into most of the major UK supermarket chains where most of it is sold.

4 Michiel Arnolus and Floris van der Pol, (Feb 2009), L'amélioration des Performances de la Filière des Produits Transformés de la Mangue au Burkina Faso et Mali.

- **Organic and/or Fair-traded dried mango –** this is the product range which Mali and Burkina Faso supplies. This is a niche product and is generally sold in health food shops. Being organic, sulphur is not used to preserve it, so the colour is much less attractive and the packaging is much poorer quality. In order to have an acceptable shelf life, the mango pieces are dried to a moisture content of about 10 to 14% which makes them tougher to eat than the conventional mangoes with their higher moisture content. It is estimated that this accounts for about 10 to 20% of the market and, as with the conventional market, one source is responsible for about 90% of the supplies; Burkina Faso. According to Amolus and van der Pol (2009), the consumers are divided as to the inherent quality of this product. It is regarded as healthy because it is organic, but the reaction to the appearance and taste is more mixed, with the acidic nature of the variety Amelie causing some adverse comment.
- **Crystallised mango –** this product is dried in a sugar solution through the process of osmosis. This results in a sweeter product which is tender to eat, but the fruit loses much of its taste and smell compared with the above products. The high sugar content (it can be up to 65%) means that customers do not regard it as a healthy product and the lack of flavour reduces its attractiveness to retail buyers. One positive attribute of this product is that it is easy to dice and the pieces do not stick together which makes it very suitable for a food ingredient especially in mixtures with other fruit and nuts. The main countries supplying this crystallised product are Thailand and the Philippines.

Given the strengths and weaknesses of the three different types of dried mango, it is not too surprising that the conventional product is in most demand and is in fact the industry standard to which other products are compared (Table 2.2). The opportunity that needs to be considered is whether the quality in terms of appearance, texture and packaging of the organic product can be improved to more effectively compete with the conventional product. However, the quandary here will almost certainly be that to effectively compete in the conventional market will mean having to take a reduction in price.

The other constantly reported issue is that the quality of the organic fruit is exceedingly variable. For example, within a container load, the fruit can vary significantly in colour and moisture which makes it difficult to access the more quality-sensitive supermarket sector.

Table 2.2 Consumer perceptions of the different types of dried mango types

	Strengths	Weaknesses
Conventional (South Africa)	Good colour and taste Easy (soft) to eat Pieces do not stick together Competitively priced	Contains sulphur Still a little hard to eat
Organic (Burkina Faso and Mali)	Can be a strong and powerful taste Appeals to consumers of organic produce	Variable quality; (eg, unattractive colour, too dry, hard to chew, lacking in taste and sticky) Unattractive packaging
Crystallised (Philippines, Thailand)	Soft, easy to eat Attractive colour Not sticky	Does not taste of mango Very sweet

***Source**: Based on data in Amolus and van der Pol (2009)*

2.2 TRADE STATISTICS

The dried fruit market in EU is large; the normally quoted figure comes from the CBI market survey (2009) which notes that the total dried fruit imports from the EU are 870,000t, worth €2.3 billion. However, about half the dried fruit originates from grapes, 34% from dates. The market for dried mango is a very small portion of the total dried fruit market and it is often regarded as part of the "dried tropical fruit" category, which also includes banana, papaya and pineapple. It is believed that dried mango is less than 1% of the total dried fruit market, ie much less than 8,700t.

It is interesting to understand why mango occupies such a small portion of the dried fruit market. In the EU, fresh mangoes are widely sold in most supermarket and grocery outlets, but it is still a minor product. In 2008, the EU imported almost 5 million t of banana and only 230,000t of mango; ie less than 5%. The EU imports just under 12 million t of fresh fruit; mango represents about 2% of the total imports which suggests that mango is perhaps not as popular as many would believe. It is also often regarded as a "luxury" product, because it is more expensive than many of the other fruits on offer. Also dried mangoes are not as convenient to eat as, say, sultanas and raisins and it has a very strong and distinctive taste, which is not to every European's liking. Finally, and perhaps crucially, dried mango is an expensive product compared with dried grapes and dates.

The biggest markets for dried mango in the EU are the United Kingdom (UK) and Switzerland; this is because the supermarkets in both countries stock the product. In most other countries in Europe, dried mango is sold through specialist health shops. Data for the consumption of dried mango in each EU country are not officially published; therefore, the data presented in this section has come from Amolus and van der Pol (2009).

Amolus and van der Pol estimate the size of the UK market at between 1,200 and 2,000t, of which between 10% and 20% is organic and fair-traded, ie 120 to 360t. Dried mango from South Africa is sold in all the major supermarkets, eg Tesco, Asda, Sainsbury, Waitrose and Morrisons. An indication of how successful this line has become is that it is increasingly sold under the supermarket's own label. Generally, organic fruit are sold in specialist health shops, as for example Holland & Barrett. Even though it is perhaps not a representative survey; a quick analysis of dried mangoes was undertaken in the city of Bath, UK (see text box).

The estimated size of the Swiss market is between 200 and 350t, but a higher proportion is organic and fair-traded, 35 to 70t. The supermarket chain Migros sells mainly conventional mango from South Africa while the Co-op also sells the organic and fair- traded product from Burkina Faso.

According to the data collected by Amolus and van der Pol, the total size of the EU market for dried mango is between 1,600 and 3,000t/year. Of the total market, they estimate that the organic and fair-traded product is somewhere between 150 and 600t/year (Table 2.3). It is very interesting that 85% of the dried mangos are consumed in the UK and Switzerland but the consumption of fresh mangoes is much more uniformly spread across European countries[5]. It is important to try to understand the reasons for this difference because it either means that exports from Mali should be focused on the main consumption markets **or** that it should concentrate on the underdeveloped markets!

Table 2.3 Estimated quantities of dried mango consumed in different countries, 2008 (tonne/year)

	Total size	Organic and fair-trade
Great Britain	1,200 – 2,000	120 - 400
Switzerland	200 - 350	20 - 70
Austria	10 - 20	1 - 4
Germany	50 - 100	5 - 20
France	50 - 100	5 - 20
Netherlands	35 - 100	3.5 - 20
Belgium	20 - 50	2 - 10
Denmark	15 - 30	1.5 - 6
Sweden	15 - 30	1.5 - 6
Italy	20 - 25	2 - 7
Ireland	15 - 30	1.5 - 6
TOTAL	**1,630 -2,845**	**163 - 569**

***Source**: Based on data in Amolus and van der Pol (2009)*

5 The UK consumes about 28% of the fresh mango imports into the EU-27, Germany 20%, France 16% and Holland 13%.

A quick analysis of three supermarkets (Waitrose, Morrisons and Sainsbury) and two health food shops (Harvest and Julian Graves) was undertaken in Bath (May 2010). All sold dried mangoes; Morrisons had no stock on the shelf, but had some in the store. Two of the supermarkets sold South African product under their "own-label", Sainsbury just stocked Forrest Feast (a sugared product from the Philippines). Julian Graves also sold South African product; the only store to sell product from Burkina Faso was Harvest. There was very little shelf space devoted to dried mango; other fruits got considerable more promotion. The packaging of all the offerings was acceptable, though the Harvest fruit was certainly the least attractive to a European shopper.

There was a surprisingly wide range of prices; the equivalent of £14.9 to £20.5/kg

Morrisons	*conventional*	*£1.49/100g (£14.90/kg)*
Waitrose	*conventional*	*£2.89/150g (£19.27/kg)*
Waitrose	*organic*	*£2.99/150g (£19.93/kg)*
Sainsbury	*sugared*	*£2.49/130g (£19.15/kg)*
Harvest	*organic*	*£1.90/100g (£19.00/kg)*
Harvest	*organic slices*	*£2.20/125g (£17.60/kg)*
Julian Graves	*conventional*	*£5.59/175g (£20.51/kg)*

The different sources were assessed by a taste panel: it was concluded that the Julian Graves and Morrisons were visually the most attractive, followed by Waitrose, with the least attractive being the Harvest product. It was also agreed that the Julian Graves and Morrisons were the most pleasant to eat, both the Harvest offerings being extremely tough with a very strong taste, which some people found attractive while others did not!

Much of the focus of the investigations has been to identify opportunities in the organic and fair-trade market for dried mango. It must be recognised that this is a small, niche, market which has the advantage of paying slightly higher prices to the farmer and charging the consumer more. These market opportunities have grown for much of the last decade from a very low base and it is generally recognised that about 3 to 4% of the food sold in Europe is organic. There is some variation from country to country, for example, sales of organic food are highest in Denmark (6.5%), followed by Austria (just over 5%), while Switzerland is just under 5% and Germany is less than 3.5%[6]. The largest market for organic produce is Germany followed by France and the UK[7].

The organic market has had a tough time in Europe during the credit crunch/economic crisis in 2009/10 which produced the worse trading climate for a generation. For example, in the UK, sales of organic food, drink and other products declined by 12.9% in 2009[8]. This decline was most notable in farm shops and health food outlets (down by 17.7%) while sales of organic goods in supermarkets fell by only 12.2%. It appears that the more expensive organic produce suffered as consumers sought better value for money. Promoters of organic produce claim that this decline will be reversed in 2010, but this assumes that the EU comes out of its economic recession and that some consumers consider buying organic. However, these data do indicate that the organic market is small and fragile.

Therefore, if Mali wants to export significant tonnages of dried mango, it is important to recognise that confining itself to organics and fair-trade segments will make this very difficult.

2.3 MARKET CHAIN

The supply chain is complex and fragmented with very few specialist importers of dried mangoes, especially in mainland Europe. In the UK, there are some larger importers of South African fruit who then supply to the larger multiple retailers. There are no specialist importers of dried mangoes because the market is too small and therefore most specialise in all dried fruits. The importers often chop/dice the fruit, re-pack it and mix it with other fruit and/or nuts; this is often done to order. There are also many traders/wholesalers of dried mango who purchase small amounts from importers and distribute to retail outlets and small amounts to food processors.

Most exporters do not sell direct to the end-users but are happy to use intermediaries (ie, importers) who then undertake the complex and sometimes difficult task of marketing the product

6 Markus Rippin, AgroMilagro research (2010) Know How - Organic-Market Information. organic-market.info/web/…/7413.htm

7 The Organic Market Report (2010); The Soil Association.

8 The Organic Market Report (2010); The Soil Association.

to the large number of different importers. If any importer brings in more than 100t, then it will come from South Africa.

2.4 TRADE INTERVIEWS

A wide range of trade interviews were undertaken across a variety of actors in the dried mango supply chain (Appendix 2.1). As would be expected, the interviewees were not always consistent in their observations on the market and their advice to best help the potential Malian exporters. However, it was encouraging that many thought that there was an interesting market opportunity for a new entrant, with the inevitable reminder that it would be necessary to ensure that the quality was consistently good and that the exporter would be able to honour supply agreements and not be an erratic supplier to the market.

As noted above, there are basically three types of dried mango offered on the market, conventional, fair-trade and crystallised. The crystallised market is small and there does not appear to be much interest; being high in sugar it does not appeal to the health market, it is must likely to be a small sale item in the food ingredient market. Therefore, most of the interviews concentrated on the other two products.

It is interesting to note that both the conventional and organic/fair-trade dried mangoes have two different value chains. Most of the organic fair-trade product originates in Burkina Faso, although there are small quantities from other countries, and the product is retailed in organic and health food shops. In contrast, the vast majority of the conventional product is processed in South Africa and much of it is retailed in supermarkets. There is some crossover as at least two suppliers to health food shops obtained their "sulphur-preserved" stock from South Africa.

Most of the traders who were interviewed noted that dried mango was a minor product; there was not a great demand from their retail customers[9]. It was often stated that it is an expensive product with a distinctive (strong) taste and it is not an easy snack item to consume compared with other dried fruit. Therefore, it was interesting that some of the large dried fruit traders did not bother with it or were not interested in importing it.

In addition to the small size of the market, it was interesting that some of the representatives mentioned quality as an issue. Amolus and van der Pol noted that during their interviews with sales representatives of importers of organic/fair-trade dried mangoes, all of them "had at least a few bad experiences with colour, lacking in flavour, sticky or too dry, hard to bite and variable quality". They concluded that "it is the lack of consistency regarding all aspects of quality that poses the most serious problem; sometimes a whole container is poor quality and that the importer will not be able to do anything with the goods". The interviews in April and May 2010 did not reveal the same quality problems with the organic/fair-trade dried mangoes. Most importers are now probably aware

9 This was confirmed by the relatively small amount of shelf space given to dried mango compared to other dried fruit. Retailers, and especially supermarkets, give more shelf space to the more popular items; they also give their more popular products better aisle position. Observations made on one day in three supermarkets and two health food shops in Bath, UK, confirmed the lack of priority given to dried mango.

that dried mango can be an inherently difficult product to manufacture and are taking more care in their choice of suppliers.

Market size – there are no official trade data to confirm the market size and any historical trends. Amolus and van der Pol estimate the European market size to be 1,630 to 2,845t/year of which 163 and 569t/year is organic/fair-trade. It is especially difficult to estimate market size from interviews because the supply chain has many actors. The interviews would suggest that the size of the organic/fair-trade market is about right; probably it could be narrowed down to about 300t to 400t/year. Most of this comes from Burkina Faso. It is probable that Amolus and van der Pol may have over-estimated the imports of conventional dried mango. They correctly note that the biggest market is the UK at 1,200 to 2,000t/year and they state that most of the sales are through supermarkets. The main supplier to the supermarkets estimates that his sales are in the order of 200t/year; therefore, it is likely that the current levels of EU imports are at the lower end of their range. So, it is likely that currently the total EU market is about 2,000t/year. What is extremely important for a new entrant is whether the market is growing and what is its competitive position.

In the interview with Gerbana, it notes that there is unsatisfied demand for dried mango in Europe. This is certainly the case for conventionally dried mango where the South African industry notes that they are not able to supply all the market demands; in fact there are markets in Europe which they have not even be able to target. What is perhaps more interesting for the current dried mango strategy in Mali is whether the organic/fair-trade market is really under-supplied and whether it is expanding. It must be stressed again that the organic market in Europe is a very small market segment and if an exporter targets it, then they will be ignoring well over 90% of the market opportunity. This market has also been badly hit during the economic recession. However, perhaps the biggest problem Mali will have to address if it continues to target this market is that the product is generally regarded as being inferior to the conventional dried mango. Some importers might be interested in working directly with Mali, but if they are already importing from Burkina Faso, there has to be a very good reason to change suppliers; which have to offer either much better quality or be significantly cheaper. They would also have to be able to guarantee that they could honour supply commitments**.**

In addition to Gerbana, there was some indication that the European market might be slightly short of organic/fair-traded dried mangoes, but again it must be stressed that the market is expecting good quality product. There are a number of importers who could be contacted with a view to trying to interest them in organic/fair-traded dried mangoes.

Discussions with the importers of conventional dried mangoes stated that they could not get enough product from South Africa. Interviews with processors in South Africa were very revealing because they admitted that they could not meet market demand. They claimed that raw materials were becoming increasingly expensive and scarce, the cost of energy was increasing and it is becoming increasingly difficult to remain competitive in Europe. In addition, there are some concerns about

the effect of AgriBEE[10] which may be making some businesses reluctant to invest. Increasingly, South African farming and processing operations are looking to diversify away from South Africa. Some horticultural businesses are looking to invest in Mozambique, including mango production and processing. Some South African dried mango companies have been approached regarding support and possible investment in other countries in West Africa (ie Ghana and Burkina Faso) and further afield (ie Peru). If South African companies diversify, it is likely to be mainly to produce a conventional product, though they have the technology to produce organically.

The competitive position of Mali compared with the other countries which are considering asking for South African technology is interesting. Ghana has the advantage of not being landlocked, though the mango production area (around Tamale) is a considerable distance from the port at Tema (about 450km) and it has a lower level of production for export. Burkina Faso has less production for export than Mali, but has more experience of drying mangoes, but no experience of conventional drying as promoted by the South Africans.

The potential pricing of dried mango is obviously very important to determining whether to support this industry. The C&F price delivered to a North European port appears to be in the order of USD 7,000/t for bulk dried mango. The price is the same for both organic/fair-traded product as for conventionally dried South African. Gerbana quoted a significant 30% mark-up for organic from Burkina Faso compared with non-organic. However, it is likely that the comparison was with non-organic produced in West Africa, and not with the better quality conventional product from South Africa. If Mali is to compete on the market, it might have to undercut Burkina Faso prices to gain market share. However, if it decided to compete in the conventional market and given that South Africa cannot meet market demand, Mali might not have to buy market share by cutting prices.

Therefore, a good market price guide for Mali exporters to use for both organic/fair-trade and good quality conventional dried mango would be USD6,900/t.

Undoubtedly there are interesting market opportunities for Mali to sell dried mangoes into Europe; it must be stressed again that they would have to compete on price. In addition to the small opportunities in the organic/fair-trade segment, there is a much bigger opportunity in the conventional segment of the market for a much better produced quality, but this may require linking up with a South African company to provide the technology and management in order to meet the quality standards. Some South African dried mangoes are exported certified as being organic. It was reported that the technology has been developed to produce dried mangoes at 14 to 23% moisture with a long shelf-life. Therefore, if Mali attempted to produce a better quality of organic/dried dried mango using South African technology, there is then a good chance that it could take away market share from Burkina Faso.

10 Black Economic Empowerment legislation in Agriculture which makes demands for the emergence of black majority owned agricultural companies in terms of land ownership, production capacity and improved market access.

2.5 MARKET ACCESS

There should not be a problem for Mali exporters accessing the market with dried mangoes. There are no duties that will need to be paid and there do not appear to be any non-tariff barriers to trade. Obviously, the export will have to comply with normal practices associated with exports. The consignment must be accompanied by a **phytosanitary certificate:**

- A phytosanitary certificate must accompany every shipment (which will certify the product is free of plant pests and diseases).
- The certificate must confirm that the consignment has been inspected (and signed for) within 14 days prior to dispatch.
- It must be issued and signed by the official national plant protection authority.
- It must be translated if not in English.
- Note – there will be random checks at point of entry to confirm that the certificate is both authentic and correct.

The documentation accompanying the assignment must give sufficient information for the authorities to be able to trace the origin of the product; eg it must state the country of origin, the name of the product and the name and address of the exporter. In addition, it is recommended (by the EU) that the volume or quantity, batch number, detailed description of product (pre-packed or bulk, variety, raw or processed) are also recorded.

The product must not contain any **pesticides banned** by the EU. There is a directive of pesticides banned for use on foodstuffs and an importer cannot import food into the EU that has been treated or contaminated with any of the chemicals listed in the directive. The list includes mercury persistent organo-chlorines (including DDT) and other compounds proved to have serious health or environmental problems. No certificate is required to prove that the produce does not contain banned chemicals, but the relevant import authorities will undertake random testing at point of entry, distribution or sale; if any banned products are detected, the importer will be prosecuted and imports will be stopped.

In addition to the regulations on banned chemicals, there are maximum residue levels (MRL) of a chemical contaminant that must not be exceeded in foodstuffs.

The food business, ie importer and/or trader, is responsible for ensuring food safety (this is often referred to "**due diligence**". A competent authority (Government) is responsible for establishing official control systems and verifying compliance with food law and food hygiene. It should be noted that all EU food businesses must comply with relevant legal requirements. Therefore, an importer is responsible for ensuring that the exporter has treated the consignment in such a way that it does not contravene any of the EU regulations and, as part of the importer's due diligence, he must be able to supply the importer with evidence of compliance with all the legal requirements. This is often referred to as the requirement for vertical traceability (Article 18), ie the "one up, one down

principle" which requires the ability to trace the movement of food at different stages of the value chain. All records must be kept for six months after date of delivery (date of importation).

2.6 COMPETITIVE/COMPARATIVE POSITION

There are a number of other countries who are trying to compete in the European dried mango market. The obvious threats come from Burkina Faso and South Africa. The entry barriers for establishing a dried organic mango venture are not the great, therefore it is easy for countries to enter the market and compete, especially in the organic sector where quality standards are perhaps not that demanding. If a country is really going to build a strong competitive position, this will be achieved through technology and good management. Currently, the expertise in Mali is just focused on the organic/fair-trade market, which is a small nice opportunity. The significant opportunity for Mali is to attract South African technology and management to establish a top quality industry. There are structural problems in South Africa which allows Mali to have comparative advantage; these include raw materials being in short supply and expensive, labour and other costs becoming increasingly more expensive and possible issues with the implementation of AgriBEE. There is a great opportunity for IICEM to help turn the comparative advantages that Mali has over South Africa into competitive advantage by attracting skills and management from South Africa.

As dried mango is a relatively expensive product (at USD6,900/t), the disadvantages Mali has with freight rate is less important than for lower value products. Obviously, efforts to reduce the transport costs from Bamako to Abidjan or Daka will make dried mangoes even more attractive, but it is not vital to the expansion of this industry.

It must be noted that other countries have similar advantages to Mali, ie successful fresh export businesses marketing in Europe, surplus cheap raw material and relatively low labour rates. These countries could also be attractive for South African companies. It was reported by the two South African fruit processors interviewed that they had been approached by Ghanaian operations to establish conventional drying factories. It is therefore important that IICEM quickly reacts to this opportunity before it is lost. The fact Mali is already doing small amounts of dried mango for the European market gives them a "knowledge or learning advantage" advantage over Ghana, but this would soon get eroded.

2.7 OPPORTUNITIES FOR MALI

There are some definite market opportunities that Mali could take advantage of, providing they can be competitive and achieve the quality standards required by the EU market. These opportunities occur in both organic/fair-trade, and conventional market segments.

The organic/fair-trade opportunity occurs because the main supplier to this market segment, Burkina Faso, cannot meet the demand. It is estimated that the size of this segment is 300 to 400t/year and a sensible target price to attract new customers would be about USD6,900/t. Given that there is a shortage of supply, it must be possible to supply an extra 50 to 75t into the market without negatively impacting on price in the short to medium-term, which would generate a sales value of USD345,000 to 518,000/year. In the medium to longer-term, if Mali wants to double this target, it

would mean taking market from Burkina Faso; which might lead to a reduction in market prices. In order to achieve the short to medium-term target, it is recommended that IICEM:

- Organises an outward marketing mission for potential dried mango exporters to meet some buyers who have expressed an interest in purchasing from Mali. It is also important to send samples to prospective buyers, ahead of the mission, for quality evaluation. Potential buyers could include Tropical Whole Foods, Biofruisec and Tadin Organic**,** but it should not be limited to these. It might therefore be necessary before the mission is finalised to allow more time to identify further potential importers because there are many players at each level of this value chain.
- Undertakes a financial analysis of processing dried mangoes for marketing in Europe to confirm its profitability.
- Organises a study tour of the industry in Burkina Faso to determine whether Mali has significant comparative and competitive advantage. If it can be shown that Mali has comparative advantage and the management ability to establish a competitive edge, IICEM should help exporters try to achieve the medium to longer-term target of 50 to 150t/year of dried mango. However, trying to achieve this will mean taking some market away from Burkina Faso.

Potentially the most exciting opportunity for Mali is to try to produce conventional dried mangoes by using South African technology and preserving the product using sulphur or other technologies[11]. This is a much bigger market opportunity and other countries have recognised this and may provide serious competition for Mali. However, it is a much bigger market and the medium to longer-term target for Mali could be as much as 300 to 500t/year (USD 2 to 3.5 million/year). If Mali wants to take advantage of this opportunity, it is recommended that IICEM:

- Organises a study tour of South Africa to fully investigate the reasons why it is not able to meet the EU demand for dried mango. Also, it provides an important opportunity to meet with potential partners who might be willing to transfer technological and management skills to process top quality dried mangoes. There is a good chance that if the correct incentives are provided, some of these South African companies might be willing to invest in Mali. The advantage of this is that they would bring considerable market linkages to potential

[11] The technology for producing conventional and the organic/fair-traded product is very similar. The scale of the conventional processing is larger, and it is claimed by the South Africans that they place a much greater emphasis on the quality (particularly the maturity and colour) of the fruit used. Traditionally, the conventional dried mangoes were preserved using sulphur, which is similar to some other dried fruit (eg, apricots). However, as the main retailers try to reduce the residues in their offerings, considerable efforts have been made to preserve dried fruit without using chemicals such as sulphur. If a study tour to South Africa is organised, one of the main objectives will be to gain a greater understanding of current dried fruit preservation.

investment. This study tour should confirm whether Mali has the comparative advantage and the management ability to establish a multi-million dollar conventional dried mango business.

- Following the study tour, IICEM should invite potential South African investors to Mali and discuss opportunities for them to invest. It must be understood that other countries, including some of Mali's neighbours, are also talking with South African dried mango investors and therefore, the Project might have to negotiate incentives to encourage them to establish businesses in-country and introduce their technologies and management skills[12]. Importantly, these companies also bring good marketing links, which will be vital in taking the industry forward.
- Organises a short marketing mission to confirm that buyers are looking for new sources of supply and that the price and market size assumptions are correct. There are a number of European importers who have expressed interest in purchasing good quality, conventionally dried mangoes including Evolution Foods, Besana, Horizon Foods and J O Sims,. However, it is recognised that there are a wide range of actors in the dried mango supply chain and more buyers could be identified.
- Undertakes financial analysis of processing conventionally dried mangoes for marketing in Europe to confirm its profitability.

[12] The granting of incentives is a complicated area of business. Some European countries that have wanted to attract modern industries with new technologies have given significant incentives to companies to build new factories. For example, in the 1960s and 70s, the UK had a large car building industry which stagnated and lost its competitive edge. The conservative government of the 1980s allowed most of these old-fashioned British to close down but gave very significant incentives to a range of Japanese companies to establish new car assembly factories. Without these incentives, the Japanese companies may well have built new factories in other European countries. The issue facing Mali is what sort of incentives should be offered; however, this will become more apparent following discussions with potential investors and the Mali ministry that handles trade and investment issues. Perhaps the most important step is to recognise that attracting external investors will help establish new industries and that Government would be receptive to considering a series of appropriate incentives to ensure new technology came to Mali rather than some of its neighbours.

MANGO PURÉE

3.1 BACKGROUND

Mali is already a significant exporter of fresh mangoes to the EU (Fig 1.1) and therefore it is natural to investigate if there is an opportunity to use surplus and slightly blemished fruit to make purée. There has been considerable interest in establishing a mango purée factory; for example *Mango pulp and nectar processing in Mali – A technical and financial analysis* by Ed Keturakis of Abt Associates Inc which concluded that an "integrated mango pulp and nectar production line is considered a good investment for Mali". This report certainly highlighted what might be achievable even if some of the marketing assumptions are probably rather optimistic.

Fruit juice and purée are normally processed into either single strength or concentrated product and it is preserved either aseptically or frozen. Single strength is the natural product and concentrated product is where some of the water has been evaporated. Aseptic processing and packaging is where the juice is sterilised and then placed in the packaging and sealed under a controlled, sterile environment which means it can be transported at ambient temperatures. If aseptic techniques are not applied to preserve fruit juice, then it has to be preserved and transported frozen. It is generally believed that quick-frozen purée and juices are a superior product, but in the case of mango, standard practice is to use aseptic techniques. The sterilised purée is normally stored in 200 litre drums lined with polyethylene bags.

An important indicator of fruit juice/purée quality is the "Brix" which is a measure of the sugar content. In the case of mango pulp, single strength purée would have a Brix level of about 14 to 16° while mango concentrate has Brix levels of about 28 to 30°. In general, the best quality juice/purée comes from single strength because the evaporation of water impairs taste.

It is reported that three companies have either built or plan to invest in mango pulp processing, with a total capacity of 15,000 tonne of single strength mango purée per year[13]. As a rule of thumb, it normally takes 2t of mango to produce 1t of single strength mango purée. It is proposed that the new investments in mango processing will concentrate on single strength and aseptic processing. These decisions were made because it is believed that the cost of energy is too high to make concentrate economic and that the erratic nature of the national electricity supply means it is difficult to ensure that frozen purée can be maintained in store and transport.

The main market for mango purée in Europe will be for retail packs of fruit juice; either as a pure juice or in mixtures with other fruit (see text box). There is also a much smaller market as a food

13 The biggest investment is by Comafruit which has a processing capability of 10,000t/year of finished product and the two other investments are by SudAgri and Yaffa et Frères which both have a processing capacity of 2,500t/year of finished product. Comafruit is a subsidiary of the French company Comalait Groupe SA, a major French Food conglomerate.

ingredient for ice cream, yoghurt and other desserts. The United Nations (UN) Statistics office (2005) estimates that 65% of the mango purée used in Europe is destined for the drinks industry (ie juice, nectar and smoothies), 30% in the dairy industry (ie yoghurt, ice cream, desserts and sauces), while 5% is destined for other industries such as jams.

When discussing the world market for mango purée, it can be broadly divided into originating from three different varieties. The international market is dominated by India, which produces juice from two varieties of mango, Alphonso and Totapuri. The juice from the Alphonso is regarded as the best fruit juice available while the Totapuri juice tends to be the cheapest on the market. The third variety, or range of varieties, used for juice is from the Floridian varieties, ie Tommy Atkins, Kent, Keitt, Palmer. The quality of juice, and price, of these Floridian purées is midway between Alphonso and Totapuri.

It is often assumed that mango is a very popular fruit, but it represents less than 2% of the fruit consumed in the EU. It is also not a very popular fruit juice; probably because it is expensive and it has a pronounced and strong taste. This is reflected in the fruit juice sales where it is rarely seen as a pure juice; it is almost exclusively sold in mixtures with other tropical juices[14]. Data from the European Fruit Juice Association show that the total EU consumption of fruit juices and nectars in 2007 was 11.2 billion litres, a slight decline from 2006. Orange juice was most widely consumed (38%) followed by multifruit juice (18%), apple (14%) and peach (4%) and pineapple (3%)[15]. However, it is encouraging to note that, compared with 2001, the consumption of multifruit drinks has increased, mainly at the expense of apple juice. New product development has been most notable in niche areas, such as smoothies, dairy-juice blends, chilled juice and functional juice-based drinks containing added vitamins, minerals and other ingredients. These sub-categories of the European fruit juice/nectars market remain small, but are evolving rapidly. Mango juice is an important ingredient used in some of these products, but it is not used in any significant quantities. Innocent, the largest smoothie manufacturer in the UK, only uses about 4,000 to 5,000t per year of Indian mango purée.

14 Fruit juices will rarely have more than 10% mango purée, the rest of the mixture will contain much cheaper juices such as pineapple, orange etc

15 Source CBI Market Information Database

Three supermarkets (Waitrose, Morrisons and Sainsbury) in Bath were visited in May 2010 and the fruit juice shelves were evaluated. None of them sold pure mango juice; most of the shelf spaces were given over to pure orange, grapefruit and apple juices. There were also sales of pure grape, pomegranate and cranberry juice. Mango was used in some mixed products, but only at an inclusion rate of 8 to 18%. In addition to the fruit juices pictured below, Morrisons sold an Innocent smoothie with 12% mango and Sainsbury sold a Tropicana product called 'mango peach and papaya' which contained more orange, apple and papaya than mango (12%)!

Tropicana Orange and Mango (£2.09/litre) contained 82% orange and 18% mango

Sainsbury Pineapple, Mango and Passion Fruit drink (£2.03/litre) contained 8% mango

Tropicana Mango, Peach and Papaya (£2.03/litre) contained 12% mango

3.2 TRADE STATISTICS

Trade statistics for mango juice are very difficult to obtain because they are generally not disaggregated from "other juices". The best and most widely quoted source of mango purée market information has been produced by Parnav International in a report for PAMCO[16]. In addition, data produced by the Agricultural and Processed Food Products Export Development Authority (APEDA) of India are generally regarded to be an accurate reflection of its trade with external partners.

The Parnav data confirm India as the biggest producer and main exporter of mango purée, with almost 50% of the world's production and 63% of the world's trade (Table 3.1). Other significant producers and exports are Mexico, Columbia and the Philippines. It is interesting to note that in all the countries except for the Philippines, Pakistan and Brazil, over half the production is exported. Therefore, the main focus of most of the countries is the export market. It can be inferred from these data that the annual growth rate of the international trade of mango purée is 6%/year.

Table 3.1 Global production and export of mango purée, 2003/8 (t)

	2003			2008	
	Production (t)	Export (t)	% World trade	Export (t)	AGR 2003/8
India	117,900	97,990	63%	137,200	8%
Mexico	26,000	15,765	10%	19,700	5%
Colombia	22,000	11,800	8%	14,750	5%
Egypt	16,303	8,459	5%	8,450	0%
Thailand	13,125	7,380	5%	7,380	0%
Peru	5,700	5,130	3%	5,130	0%
Philippines	20,000	4,000	3%	4,000	0%
Pakistan	15,540	3,000	2%	3,000	0%
Ecuador	3,000	2,320	1%	2,900	5%
Brazil	2,320	500	0%	625	5%
Total	248,471	156,344		203,135	6%

Note: *2008 data are estimated*

AGR – Annual Growth Rate

Source: *Parnav International*

Almost certainly the Parnav data underestimate the amount of mango purée produced in the world. During the interview process, one of Europe's biggest buyers claimed that they had commissioned a private survey which put world mango purée production at about 700,000t in 2009. However, much of this would be consumed within country and much less would be traded internationally.

If all three of the potential investments in mango purée production come to realisation in Mali and together they produce 15,000t/year, most of which will have to be exported, it would represent about 7.5% of the current world trade. It would also mean that it would become the third or fourth

16 Punjab Agricultural Marketing Company

most important country exporting mango purée, putting it well ahead of many of the established sources of mango purée from South America and Asia. Even allowing for the fact that the 2008 data in Table 3.1 may be only estimated, this would still be a monumental achievement and firmly make Mali a major player in this market.

Data from Parnav International estimate that the global demand for mango purée is 383,000t (Table 3.2). The demand is broken down into different regions; it is perhaps surprising that the biggest demand comes from South East Asia (84,520t), followed by the Middle East (69,400t) and South Asia (66,500t) and North America (55,000t). What is even more surprising is how small the demand is from the EU (16,200t). The demand from South East Asia and South Asia is well known and is mainly supplied by production within the region. International traders report that the demand is much larger from the Middle East than the EU (16,200t). If the data are correct, then if the factories in Mali achieve full capacity and it is all targeted at the EU market, it would totally flood it.

Table 3.2 Global demand for mango purée, 2003/8 (t)

	2003		2008	
	Demand (t)	%	Demand (t)	AGR 2003/8
Middle East	69,364	25.1%	69,400	0.0%
SE Asia	56,825	20.6%	84,520	9.7%
North America	39,301	14.2%	55,000	8.0%
South Asia	38,004	13.8%	66,500	15.0%
Africa	30,913	11.2%	49,500	12.0%
South America	21,724	7.9%	32,600	10.0%
EU	12,975	4.7%	16,200	5.0%
Oceania	2,353	0.9%	3,000	5.5%
Far East	2,157	0.8%	2,700	5.0%
Europe (non-EU)	1,394	0.5%	1,800	5.8%
Central America	1,234	0.4%	1,800	9.2%
Total	**276,244**		**383,020**	**7.7%**

Note: *2008 data are estimated*

AGR – Annual Growth Rate

Source: *Parnav International*

Indications are that the Parnav International data maybe inaccurate when compared with APEDA statistics which indicates that India exported 167,000t in 2008, a bit more than the Parnav estimate (Table 3.3). However, it is the export market estimates which show the main differences; the APEDA data show that India's biggest market for mango purée is the Middle East (111,000t) followed by Europe (34,000t); other regions are much smaller importers of Indian mango pulp. This is in line with most of the observations made during the trade interviews. Total exports from India increased

by 3%/year over the past three years, with the biggest increase to Asia, where Japan is the biggest importer.

Table 3.3 Destinations, by region, of mango pulp exports from India, 2006/9 (t)

Country	2006/07 Quantity (t)	2008/09 Quantity (t)	AGR (%)
Middle East	103,526	111,390	2.35
Europe	30,425	34,435	4.39
Asia	8,587	13,766	20.10
North America	6,127	6,750	3.39
Ex-Soviet Union	5,069	1,898	(20.85)
Africa	2,411	4,074	22.99
Rest of the world	691	701	
Total	**156,836**	**170,815**	**2.97**

Source: *Accord Associates based on APEDA data*

When the APEDA data are further analysed, it can be seen that Saudi Arabia is the most important destination for Indian purée, followed by the United Arab Emirates and the Netherlands (Table 3.4). The main EU importing countries are the Netherlands and the UK: France imports about 3,000t and Germany 2,500t. Much of the imports into the Netherlands will be taken by the large blending companies and then redistributed to other European countries. The data presented in Tables 3.3 and 3.4 would indicate that the EU market for mango pulp is considerably bigger than the Parnav data presented in Table 2.1 suggest. Given that it is not possible to confirm the mango purée imports into the EU from official trade data, it is therefore necessary to estimate the size of the market. Assuming India exports 34,000t, and this probably represents two-thirds to three-quarters of the total EU consumption, then it would mean that the market size is approximately 45,000 to 50,000t/year. If Mali produced and exported close to 15,000t, this would comprehensively flood the EU market especially as it would appear that demand is only increasing by about 2,000t/year. This would imply that it is therefore important for Mali exporters to quickly explore other market opportunities and the obvious market to consider would be the Middle East. This will only be a sensible opportunity if it is able to compete in terms of cost and quality with India.

These APEDA data can also be analysed to give estimates of average (FOB) prices, which are about USD946/t (€750/t). There is quite a significant range of prices, from USD750/t to 1,630/t to the different destinations, which will probably reflect the ratios of Alphonso to Totapuri and single strength to concentrate sent to each of the markets.

It was reported a number of times in the interviews that exports of mango pulp were declining because of increased demand from the local market. This does not appear to be the case as APEDA shows that total exports increased from 157,000t in 2006/7 to 173,000t in 2008/9, an increase of 5.3% per year which is slightly less than the Parnav estimate of 8% per year (Table 2.1).

Table 3.4 Main importing countries of Indian mango pulp, 2008/9 (t)

Country	**Quantity (t)**	%	**Average price ($/t)**
Saudi Arabia	53,564	31%	816
UAE	21,896	13%	843
Netherlands	19,311	11%	1,200
Republic of Yemen	15,563	9%	746
UK	8,204	5%	995
Kuwait	7,569	4%	851
Japan	4,971	3%	1,631
Sudan	4,868	3%	1,070
USA	4,343	5%	1,147
Lebanon	3,535	2%	772
Other	29,190		
TOTAL	**173,014**		**946**

Source: *Accord Associates based on APEDA data*

In addition to India, Mexico and Columbia are regarded as reasonably significant sources for the EU, but much of their output is targeted at the USA market. Other Central and South American exporters include Ecuador, Peru and Brazil. In general these countries supply Floridean varieties. Other countries that supply small amounts of mango pulp to Europe include Thailand, the Philippines and Pakistan. These countries supply pulp from varieties more similar to the Indian varieties and importers are therefore interested because they might represent an alternative to Alphonso and Totapuri.

The common unit of currency used for pricing fruit juices is the USD. Pricing of fruit juices is affected by a number of factors, eg the Brix, the variety, whether it is certified as organic of fair-trade etc. Accurate price data are difficult to obtain because the contracts between buyer and seller are private and the data that are used for Customs purposes are normally just a guide. As these

Customs data can be used for duties, it is sometimes an underestimate and, as is the case with APEDA price information, it is the FOB value. The ITC also collects and publishes quarterly newsletters on the fruit juice market where prices are given. These data reflect the landed value, ie the C&F price and duties payable.

In order to look at European price trends over the last few years, some ITC price data have been extracted (Table 3.5). This seems to show that the single strength Alphonso prices peaked in 2008 and has since declined[17]. The data series is not complete for single strength Totapuri, but a closer look at the raw data shows that whenever prices were recorded between December 2006 and September 2009, the price was between USD740 to 780/t; the jump in price reported in March 2010 is probably a reflection of a shortage before the new crop. What is particularly interesting is the steady increase in the price of concentrated Tommy Atkins; in 2006 it was a cheaper product than concentrated Totapuri, but more recently, it is about the same price. As noted earlier, mango purée is an expensive fruit juice; traders are able to buy fruit juices with much higher Brix levels for about the same amount of money. Therefore, when these other fruit juices are diluted with water, processors are able to manufacture much greater volumes of fruit juice for retailing.

Table 3.5 Selected bulk fruit juice prices on the European market, 2006/10 ($/t)

Fruit	Origin	Variety	Brix	Dec-06	Dec-07	Dec-08	Dec-09	Mar-10
Mango	India	Alphonso	Aseptic 16-17	1,250 - 1,300	1,650	1,650-1,800	1,350-1,550	
		Totapuri	Aseptic 28	1,100-1,150	1,400		1,200-1,500	
		Totapuri	Aseptic 14-17	740-780				900
	Brazil	T. Atkins	Aseptic 28-30	900-950	1,000-1,200	1,300-1,350	1,225-1,400	1,300-1,400
Orange	Brazil		FCOJ 66	2,600-2,700	1,750-19,50	1,400-1,500	1,425-1,650	2,200-2,300
			NFC	550-600	560-580	650-700	480-550	500-550
India	Papaya	Red	Aseptic ss 9	650-680			675	
		Red	Aseptic 25				1050-1065	
		Yellow	Aseptic 25				1,040	
Pineapple	Thailand	MD2	NFC 13	690-720	595	690-730	880	800-825
		S/Cayenne	Frozen 60	970-1,030	1,350	1,620-1,700	1,950-2,050	2,180-2,250
		S/Cayenne	Aseptic 60	950-1,000	1,350	1,610-1,650	1,900-2,000	2,120-2,225

Note *NFC - Not From Concentrate*

FCOJ - Frozen Concentrated Orange Juice

Source: *Accord Associates based on ITC data*

The price of organic mango juice was investigated (Table 3.6). The only organic prices quoted in the ITC database were from South America. Even though the data are not comprehensive, prices tend to be higher than conventional fruit juices. The shortage of organic price data is probably a reflection of the fact that it is not very often traded.

17 A more detailed look at the raw data shows that these Alphonso prices were reported into the middle of 2009 before they declined; probably as the 2009 production became available.

Table 3.6 Selected organic juice prices on the European market, 2006/10 ($/t)

Origin	Variety	Brix	Mar-09	May-09	Dec-09
Columbia /Peru	Magdalena	Aseptic 14-16	1,500 to 1,600	1,500 to 1,600	1,500 to 1,550
Brazil	Tommy Atkins	Aseptic 14-16			1,490 to 1.520
Brazil	Tommy Atkins/Palmer	Aseptic 14-16	1,100	1,100	
Brazil	Tommy Atkins	Aseptic 28-30			2,150 to 2,200

Source: *Accord Associates based on ITC data*

3.3 MARKET CHAIN

The marketing chain of mango juice is impacted by the fact that it is a relatively minor product in the overall fruit juice market. Therefore, processors and wholesalers rarely import mango juice directly, they buy from importers. This adds an extra link in the marketing chain. Also, there are no specialised importers of mango juice/purée; it is imported by general fruit juice importers.

The majority of the fruit juices imported into Europe come through specialist juice importers based in the main ports in Holland, Belgium and Germany. The juice importers have considerable storage capacity where they hold stock, blend juice from different sources and make cocktails to supply the processor and retailer with their specific requirements. These specialist juice importers provide a vital service to the new entrants to the market because they are able to blend small quantities of new juices with existing supplies so as to supply a processor of retail packs and food manufacturers with a consistent product all-the-year-round. The main specialist fruit juice importers include Cargills, the Dohler Group and Rudolf Wild which are regarded as the biggest three importers/blenders of fruit juices and purées. These companies will generally import between 5,000t and 10,000t of mango juice per year for selling on in Europe. In addition, SVZ, EuroCitrus aux Pays-Bas and Refresco are also reported to be significant players. However, they also market globally. These importers will sometimes buy juice and hold stock; they will not necessarily have back-to-back contracts.

In addition to these large specialist fruit juice importers, there is a range of smaller importers, often based in the UK, who have specialised in buying juice from specific sources for a specific end-customer. They will often help a new customer develop market linkages. Examples of these medium-sized importers would be Cobell, Rubicon and E E & Brian Smith, Gerber Foods, David Berryman.

The European fruit juice packing industry consists of few large companies and many small niche packers. Given that Germany is the main consumer of fruit juices, it is not surprising that it has a high concentration of fruit juice processors. According to the Association of the German Fruit Juice Industry, the German fruit juice industry consisted of 411 fruit juice producers. Several fruit juice producers are located in the United Kingdom, including Tropicana which has almost 50% market share and is a fast-growing grocery brand. It is also interesting to note that fruit juice processing increasingly takes place in Eastern European countries because they offer lower costs of production

facilities and a rapidly growing local demand. Many of these packing companies do not sell under their own name but will be producing for other branded customers and supermarket own-labels.

3.4 TRADE INTERVIEWS

The trade interviews showed that there was considerable variation in the specifications and uses for mango purée. First, the interviews confirmed that the Indian mango purée dominated the European market. The two main varieties effectively set the upper and lower limits of the price. Alphonso was the best variety and Totapuri was the cheapest. The type of purée that will be produced by Mali will not be able to compete with Aphonso but should command a premium over Totapuri.

It was noted by a number of traders that there were occasionally erratic price movements in the market. Currently (ie May 2010), there is supposedly a shortage of Totapuri which has lead to higher prices than 12 months ago. It is sometimes believed that stories of shortages of raw material from India do not always prove to be correct. However, what most interviewees agreed was that the demand for mango purée was likely to continue increasing over the next few years and there was a good opportunity for new entrants. There is a theory that India will not be able to make up potential shortfalls; it is believed that global warming is impacting on the areas where Alphonso is grown which is reducing productivity. It is often reported that the local demand for fruit juices is increasing dramatically as the Indian economy grows. If these two observations are correct, then it is said that this will lead to reduced tonnages available for exports and higher prices. Because of this, companies such as Innocent Smoothies are starting to look for alternative sources of high quality mango purée[18]. However, it must also be noted that India is by far the largest producer of mangoes in the world, growing about half the almost 30 million tonne. Despite having a large number of processing factories (Tamil Nadu has about 385 processing factories, with a total capacity of almost 9,000t/day), about 30% of the fruit goes to waste[19]. Also, some of the Indian orchards are not very productive and with better inputs and improved management, it could increase its productivity. Therefore, if the economics are positive, it should be relatively easy for India to increase its production of mango purée; it might just need some investment in capital equipment. Some caution is needed before it can be stated that there is likely to be a structural shortage of mango purée from India which Mali can exploit.

If mango purée is a **major** ingredient in an end-product (eg smoothie or fruit juice), then buyers tend to use the best variety that is available, ie Alphonso with its strong taste and high sugar content. Alphonso is also available in large quantities and the specifications tend to be consistent so it can be safely used in recipes, knowing that the end-product will not change. However, is a relatively expensive juice and if it is not a major ingredient, buyers will more often than not use a cheaper

18 One of the countries they are looking at is Kenya which grows a considerable amount of a mango variety (Ngowe) which, it is often claimed, originated in India. There are attempts to make purée from this variety and try it in some smoothie lines.

19 *An economic analysis of the mango pulp agro-based industry in Krishnagri District, Tamil Nadu* by A Xavier Susai Rai in the Political Economy Journal of India, Jan to June 2008.

variety; this is likely to be the use for Malian production. Currently, Totapuri is the main variety used for the cheaper end of the market. If there is sufficient Totapuri, the prices tend to be very low and difficult for other varieties to compete. However, given that it is important that the trade does not become over-reliant on one source, some traders will try to incorporate other varieties such as Tommy Atkins, Keitt and Kent (produced in most countries) Criollo and Haden (Ecuador), Palmer (Brazil) and Manila (Mexico). For the same reason, the trade is always happy to look at alternative origins of supply. However, if Mali was able to produce a purée with taste characteristics much closer to Alphonso, then the market opportunities would be a lot more positive. It is recognised that it will be a long time before it would be possible to introduce new varieties that would improve purée quality.

Some buyers were especially interested to get samples of Amelie as it was a variety that they were not familiar with. However other traders who know it, state that it is unlikely that this will be sufficiently good quality as to gain a significant price premium.

There were a number of companies interested in obtaining samples of Malian mango purée, but in general it is only the large blenders who would be interested in buying commercial quantities in the short to medium-term because they would be concerned about consistency of supply and quality. When that had been proven and if Mali had a special/novel taste specification, they might consider buying it. Therefore, it is important that efforts are made to meet some of the major blending companies in Northern Europe and let them have samples.

There might be a small opportunity for organic mango purée. As has been discussed earlier there is a small, but growing organic market in the EU. However, it must be stressed that it is small; one of the bigger suppliers of organic ingredient to food manufacturers had a total requirement of about 200t/year.

IICEM believes that processing capacity in Mali is about 15,000t/year of finished product. If this is produced and marketed in the EU, it would cause a major fall in prices. Therefore, it is important to target other markets; the obvious one is the Middle East because it is the region that imports the most mango purée.

There was considerable discussion as to the price Mali exporters could expect. Market prices do vary throughout the year, but in general it would appear that they should expect prices of about USD900 to 1,100/t. Given that Totapuri is in short supply, it would be hoped that the higher end of this price range would be achieved at the moment. However, perhaps a more sensible price for budgeting purposes would be USD1,000/t. Therefore, if the capacity of the processing plants were achieved, this would be worth USD15 million/year. It is recognised that some of the output might be sold on the local market.

3.5 MARKET ACCESS

There should not be a problem for Mali exporters accessing the market with mango purée. Some countries supplying the EU will have to pay an import duty of 11%, but being an ACP country, Mali will be exempt from the duty. However, the main supply, India, has an import duty of 3.6%[20]. Obviously, the imports into the EU will have to concur with normal practices associated with the trading of foodstuffs. The consignment must be accompanied by a **phytosanitary certificate:**

- A phytosanitary certificate must accompany every shipment (which will certify the product is free of plant pests and diseases).
- The certificate must confirm that the consignment has been inspected (and signed for) within 14 days prior to dispatch.
- It must be issued and signed by the official national plant protection authority.
- It must be translated if not in English.
- Note – there will be random checks at point of entry to confirm that the certificate is both authentic and correct.

The documentation accompanying the consignment must give sufficient information for the authorities to be able to trace the origin of the product; eg it must state the country of origin, the name of the product and the name and address of the exporter. In addition, it is recommended (by the EU) that the volume or quantity, batch number, detailed description of product (pre-packed or bulk, variety, raw or processed) are also recorded.

The product **must not contain any pesticides banned** by the EU. There is a directive of pesticides banned for use on foodstuffs and an importer cannot import food into EU that has been treated or contaminated with any of the chemicals listed in the directive. The list includes mercury persistent organo-chlorines (including DDT) and other compounds proved to have serious health or environmental problems. No certificate is required to prove that the produce does not contain banned chemicals, but the relevant import authorities will undertake random testing at point of entry, distribution or sale; if any banned products are detected, the importer will be prosecuted and imports will be stopped.

In addition to the regulations on banned chemicals, there are maximum residue levels (MRL) of a chemical contaminant that must not be exceeded in foodstuffs.

The food business, ie importer and/or trader, is responsible for ensuring food safety (this is often referred to "**due diligence**". A competent authority (Government) is responsible for establishing official control systems and verifying compliance with food law and food hygiene. It should be noted that the all EU food businesses must comply with relevant legal requirements. Therefore, an importer is responsible for ensuring that the exporter has treated the consignment in such a way

[20] To put this duty into perspective, if the selling price of Indian Totapuri is USD900/t delivered a European port, 3.6% duty would be USD27.50/t. This level of duty is not regarded as a serious comparative disadvantage.

that does not contravene any of the EU regulations and, as part of the importer's due diligence, must be able to supply the importer with evidence of compliance with all the legal requirements. This is often referred to as the requirement for vertical traceability (Article 18), ie the "one up, one down principle" which requires the ability to trace the movement of food at different stages of the value chain. All records must be kept for six months after date of delivery (date of importation).

In addition to the legal requirements described above, it is important that factories meet the standards demanded by the major European retailers. These include the more widespread food safety standards such as HACCP (Hazard Analysis Critical Control Point), ISO (International Organisation for Standardisation) and BRC (British Retail Consortium) as well as any specific standards such as Tesco's Nature's Choice.

3.6 COMPETITIVE/COMPARATIVE POSITION

There are many countries that are trading mango purée internationally or considering investing in the business. Therefore, if Mali is to be successful, it is important that it has a competitive edge. When considering the competitive position of mango purée in the European market, it is important to recognise that the two crucial factors for gaining market share are quality and price.

There are two aspects to quality; first the ability to reliably deliver a consistent product that meets the standards set by the European retailers and food manufacturers, eg HACCP, BRC, ISO. This is not regarded as a problem for Mali as it has proved by successfully exporting fresh mangoes. The second aspect is the taste or aroma of the purée; this is probably where Mali does not have any competitive edge as the raw material used will be the varieties Kent, Keitt and Amelie. Almost certainly the taste of the purée from these varieties will be similar much of the pulp from many other sources. Unless the genetic base can be changed, Mali will probably have to compete on price.

If Mali hopes to compete in Europe on price, it is imperative that it is a cheaper cost producer than the competition. Whilst the scope of a marketing study can go into detailed economic benchmarking, Keturakis's analysis notes that raw material prices in Mali are similar to India, but the energy costs in Mali are high – which is why concentrated juice was not recommended. One significant cost that might disadvantage Mali is freight. As the selling price of mango purée is about USD1,000/t and Mali's freight is USD80 to 180/t more expensive than the main supplier to the market (India), this puts it at a competitive disadvantage.

On the more positive side, Mali already has three investments in factories to produce mango purée and one them is owned by a large French food manufacturing group which reportedly should provide a ready market. It is very unlikely that the French food manufacturers will pay more than market price for mango purée; they should provide advice on technology and quality which should prove invaluable in quickly establishing the viability of the industry.

3.7 OPPORTUNITIES FOR MALI

The key to the long-term success for establishing a mango pulp industry in Mali is whether it can be financially competitive. Undoubtedly, it is expected that the EU market will continue to grow and the obvious country to meet the increased demand would be India. It is believed that India may have less

mango pulp to export in the medium to long-term although there is no evidence from the analysis of the trade data that this is happening yet. Ed Keturakis's analysis suggests that Mali should be competitive against production from India. One of the reasons it was suggested that Mali would be competitive was that freight rates would be cheaper, but comparisons made in the report suggest that this is not the case (Section 1.4). Also, it must be accepted that unless Mali is able to successfully introduce new Asian varieties, then it will not be able to command the same market prices as are paid for Alphonso.

One of the keys to the success of establishing a mango purée business in Mali will be whether it is able to satisfactorily market its output. There are expectations that the owners of the biggest mango purée processing plant in Mali, the French company, Comalait Groupe SA, will take most of its output. The planned output is 10,000t/year which is probably more than France imports in a year. It is therefore important that the planned requirement that can be supplied to Comalait is known and then the projected surplus that has to be marketed internationally can be calculated.

It is extremely difficult to know what the size of the European market opportunity is for Mali. Obviously, if it could undercut Toitapuri prices significantly, it would be able to sell much more than if it tried to sell at the same price. It is obviously vitally important for a proper economic analysis to be undertaken so that the minimum selling price could be more accurately determined. However, a sensible medium-term would be about 3,000 to 5,000t, which would give Mali about a 5 to 10% market share. This would generate revenues of about USD5 to 20 million/year.

It is recommended that IICEM:

- Re-evaluates the profitability of mango purée production in Mali.
- Sends samples of the purée made from the different mango varieties to a number of buyers in Europe to assess the quality and make comparisons with other sources.
- Organises a marketing mission to Europe to establish contact with appropriate marketing agents in Europe. This mission should include meeting some buyers of organic mango purée. Already a number of importers have expressed interest in evaluating Mali mango purée; including large blenders such as Doehler, Cargills and smaller importers such as Gerber Juices, Cobell and Rubicon and organic buyers such as Tradin Organic. The largest smoothie manufacturer in Europe, Innocent, have also offered to evaluate Mali's purée quality.
- As it is likely that the planned output for Mali will be too much to be absorbed into the European market, it will be necessary to commission further studies to identify and investigate other market opportunities. It is most likely that this study should concentrate on the Middle East, but regional markets should not be discounted as Mali may well have comparative advantage in some of them.
- It must be recognised that the varieties currently being grown in Mali do not produce a purée that is in great demand. It is understood that IICEM is evaluating a range of Asian varieties for the European fresh market. These trials should be fully supported and perhaps expanded to include an analysis of their potential for purée production. If varieties are identified which

have good potential for fresh exports and/or purée, the assistance should be given to assist with building up production as quickly as possible.

Freight cost from Bamako to Europe is about USD80 to 180/t more expensive than from India, which gives it a serious competitive disadvantage. The reason it is much more expensive is due almost entirely due to the cost of overland freight to the ports in Ivory Coast or Senegal. There is potentially an important role for IICEM to understand why the costs are so high and try to work with the freight companies and others to reduce the cost of moving containers to nearby ports. This could be done in conjunction with WATH based in Accra.

FRESH GARLIC

4.1 BACKGROUND

The idea for suggesting that exporting fresh garlic to the EU could be an interesting opportunity arose because a French company said they would buy all the fresh garlic that could be produced in Mali. However, they did not give an indication of what price they would pay. Unlike mango, garlic is a temperate plant and therefore many traders were surprised that it was being proposed for production in the tropics. However, relatively high temperatures (about 30°C) are required for optimum bulb development while cooler conditions favour vegetative growth[21]. The development of the garlic bulbs is influenced by day-length; longer days favour bulb development while shorter days stimulate vegetative growth. Therefore, it is probable that garlic grown in the tropics will have a tendency to produce a large number of small bulbs; especially if the planting stock is propagated in Mali. It is probably for these reasons that many of the traders interviewed were sceptical of the chances of Mali being competitive in the EU market.

The important issue for potential exporters of garlic to understand is that imports into the EU are controlled by a system of licences and quotas because there is significant production of garlic in the EU, mainly in Spain and France. The system of import licences and quotas was put in place in June 2001[22]. This regulation states that imports into the EU are subject to a specific duty of €1,200/t plus a 9.6% *ad valorem* duty. However, the regulation also allows 28,370t/year of garlic to be imported from China free of the specific duty. This annual quota was increased by a further 20,500t when a raft of new countries joined the EU in 2006. Therefore in theory, almost 50,000t/year of Chinese garlic is imported into the EU free of the €1,200/t specific duty. Garlic from other non-EU countries is levied the specific duty. The Chinese are much cheaper cost producers of garlic than the French or Spanish farmers (£450/t (USD 653/t) as compared to about €1,100/t (USD1,386t)). The system of quotas for Chinese imports free of specific duty free does not appear to result in the EU market being flooded with cheap garlic. It would appear that market prices assume that **all** the imports pay the specific duty and the inference suggested by some importers is that the advantage of the quota is absorbed by the marketing chain. What it does mean is that the market prices are always sufficiently high to ensure that the French and Spanish farmers are able to make attractive returns. However, the attractive market prices means that there are also increasing efforts to produce the crop in the newer EU member countries in South East Europe, eg Bulgaria and if prices are sufficiently attractive, other Balkan countries could well follow.

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21 *Vegetables in the tropics*; H D Tindall (1983).

22 EU Commission regulation No341/2007

It is sometimes difficult to fully understand how the system of EU tariffs works. However, when import tariffs to support the French and Spanish garlic industries were applied, it was decided that this would be done by maintaining imports at historical levels. Therefore, ongoing licences were issued to the importers of garlic who were active in the trade; this allowed them to continue importing garlic with a minimal import duty. These licences are being bought and sold[23]. New importers of garlic can apply for a licence, but they will then have to pay the full import tariffs which are currently 9.6% *ad valorem* duty and the specific duty of €1,200/t. One side effect of this high level of duty is that there have been instances of garlic smuggling, where Chinese production has been imported through countries that have preferential trading relations with the EU, eg Turkey, Egypt[24]. One of the key issues for Mali therefore is what sort of licence the importer has and how much duty will have to be paid, and of course, will the Mali exporter see the benefit. The system of licences, and indeed the protection of European farmers, will obviously make exports from Mali much more difficult. There might be an opportunity for bi-lateral negotiations between Mali and the EU for it to get a specific quota to exempt it from the specific duty.

There is some evidence that the **fresh garlic** market might be undergoing some fundamental changes. China is the main international supplier, but with the rapidly increasing internal demand for fresh horticultural products, it has sometimes led to a pressure on quantities available exports, which can open up opportunities for other suppliers. It will be extremely interesting to see if this applies to fresh garlic. It is noted that Les Jardins du Midi state that the demand for fresh garlic is "growing exponentially in many consumer markets, particularly European markets". It is not likely that market demand is increasing that rapidly, but there may be interesting opportunities caused by changes in the main supplying countries which will offer Mali an opportunity.

It is probably worth highlighting that there are a range of different types of garlic products. These include

- **Fresh garlic** – which are actually dried garlic bulbs and form the basis for this investigation.
- **Dried garlic** – which are fresh garlic bulbs that have been sliced or diced and most of the water has subsequently been removed.
- **Garlic shoots** – these are the green shoots of the plant which are widely used in Chinese cooking and their sale contributes to over half of the gross margin from garlic production in China.

There are many varieties of garlic in the world, but there is little varietal preference in the market; the choice of variety may well impact on bulb size as there is some varietal response to day length. The market will differentiate between white and purple garlic which just refers to the outer skin colour. Generally, the purple garlic has a stronger taste and flavour and higher sulphur content.

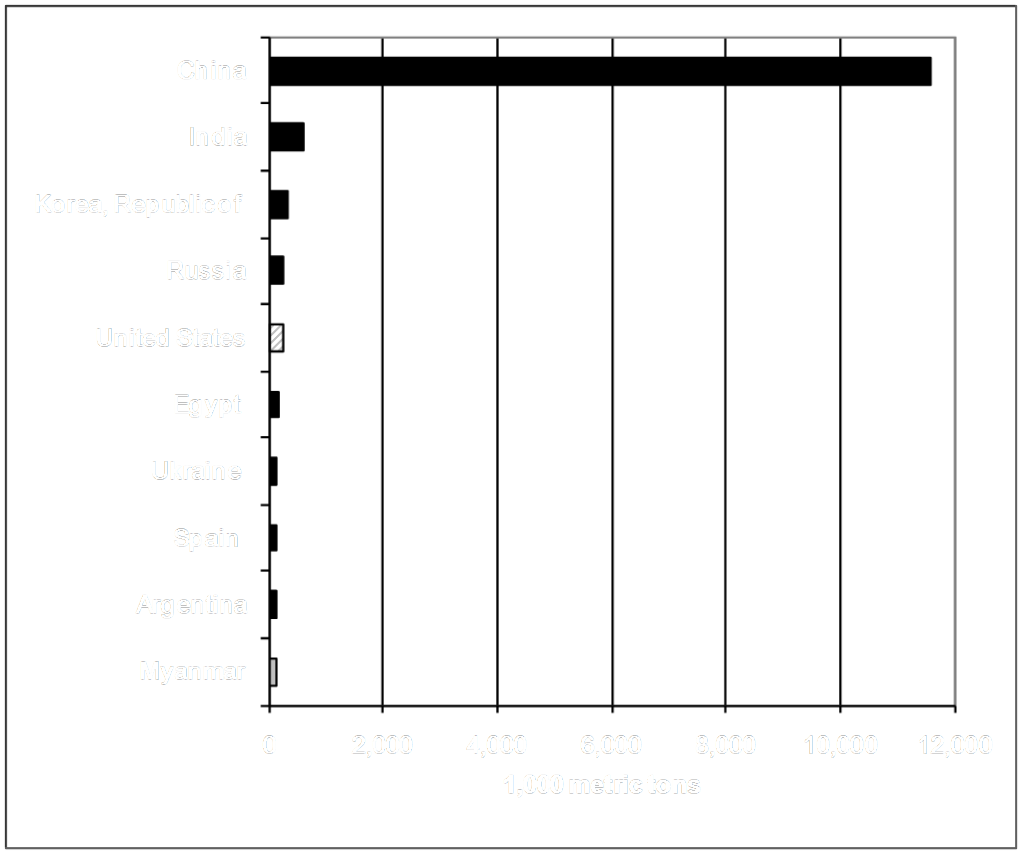
23 It is sometimes said that some traders make more money selling their licence that by marketing garlic!

24 *Focus on garlic smugglers by European Anti-Fraud Office (OLAF)*: OLAF 06/16 November 2006

4.2 TRADE AND OTHER STATISTICS

World garlic production was estimated to be 14.3 million t in 2006 and about 90% of the production is consumed internally. By far the largest producing country is China; over 11.5 million t/year (Fig 4.1). The next biggest producer was India with 600,000t. The biggest EU producer was Spain with 145,000t, while Italy and France produce between 20,000 and 30,000t/year. According to the Spanish Ministry of Agriculture, Fisheries and Food, about 16,300ha of garlic were planted in 2006, mainly in the Castilla-La Mancha region.

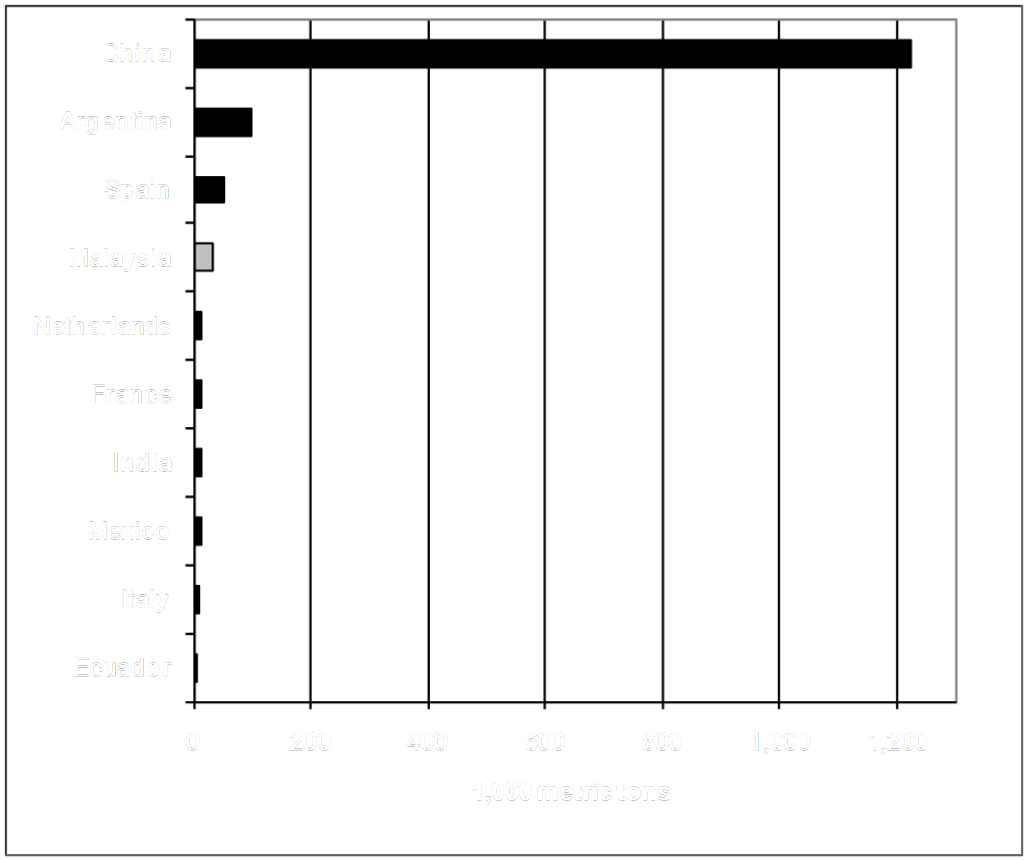
Fig 4.1 World production of garlic, 2006



Source: *Accord Associates, based on USDA data*

China dominates world trade of garlic (Fig 4.2); the main garlic exporting country is China (1.2 million t/year), or about 10% of its production. The next biggest exporter is Argentina (100,000 t/year) which exports a significantly higher proportion of its production, about 75%. Spain is a significant exporter of garlic (50,000 t/year); mainly to other EU countries. Between them, these three countries account for 93% of the world's trade of garlic. It is interesting that despite being by far the biggest exporter of garlic, still the vast majority of Chinese production is consumed locally. Therefore, changes in consumption pattern within China could have a significant impact on world trade.

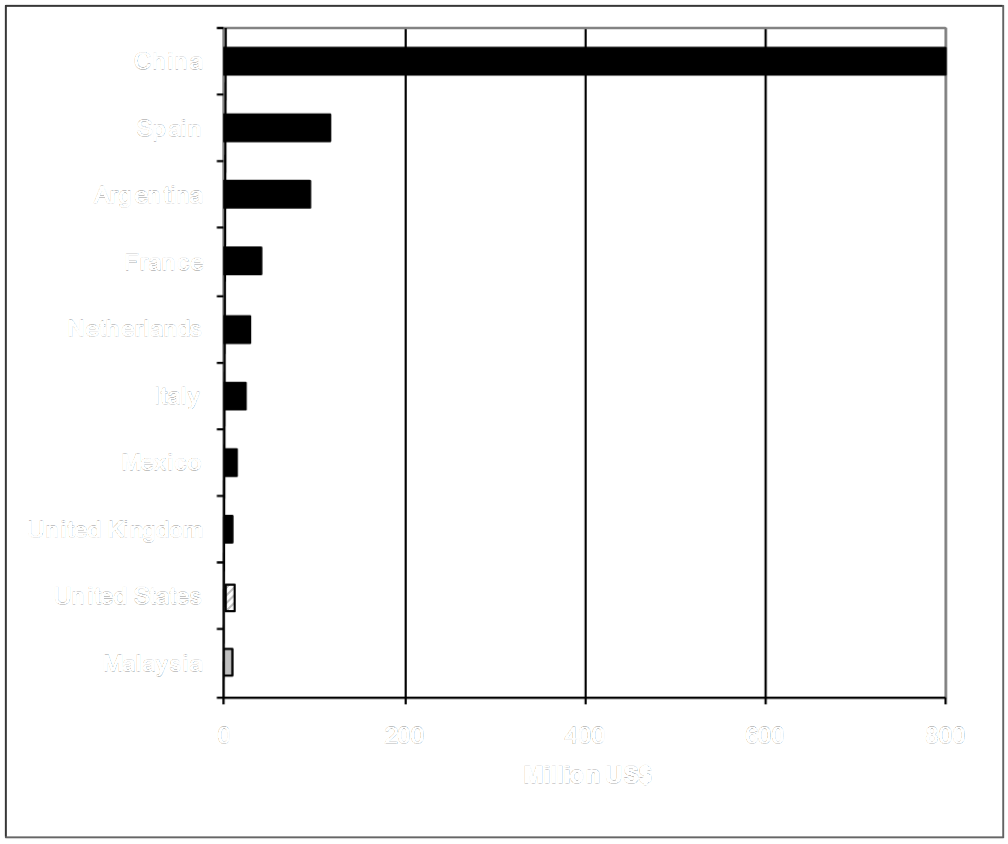
Fig 4.2 The world's main garlic exporters, 2006



Source: *Accord Associates, based on USDA data*

Not too surprisingly, in terms of value of exports, China dominates followed by Spain, Argentina, France, Netherlands and Italy (Fig 4.3). The exports from the Netherlands will actually be re-exports as it grows virtually no garlic. What is extremely interesting is the unit value of the exports because European exports are higher priced than both China and Argentina (Table 4.1). The difference between the average export values of the non-European and European countries is €1,493/t. This is probably almost entirely due to the value of the *ad valorem* import duty and levy of about €1,260/t that is charged on non-European imports into the EU. Therefore, it could be argued that the true value of internationally traded garlic is €500 to 700/t.

Fig 4.3 The value of garlic exports, 2006



Source: *Accord Associates, based on USDA data*

Table 4.1 Unit values of garlic exports by country, 2006 (€/t)

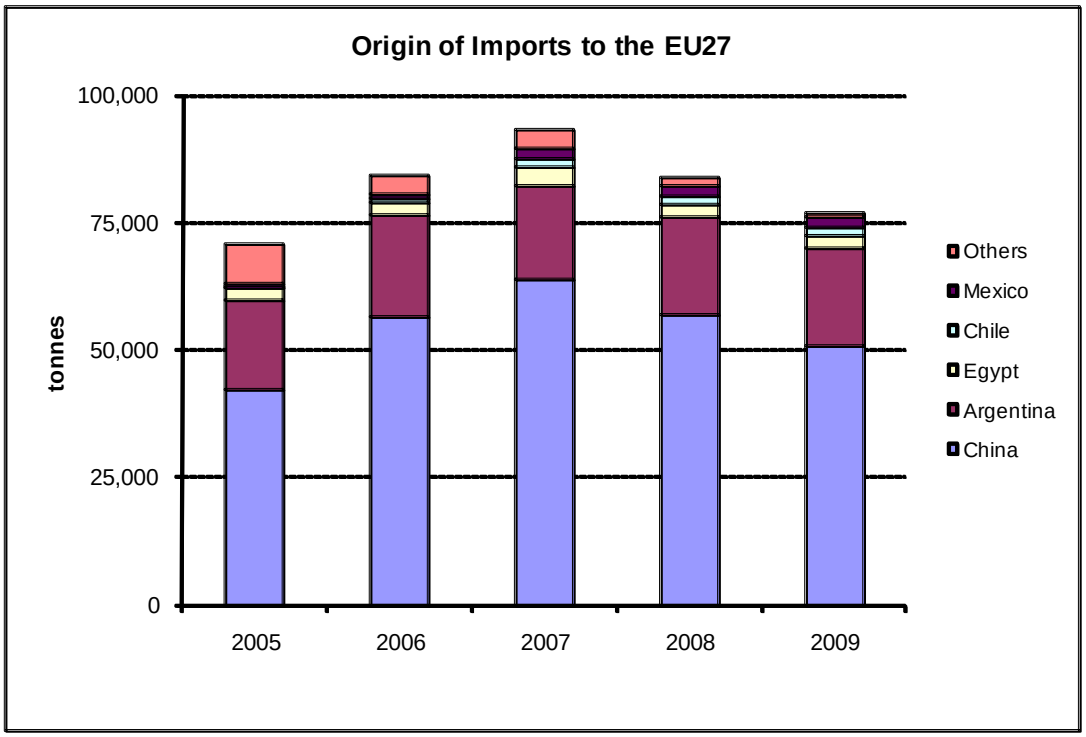
	Tonnage exported	Value of exports	Unit value	Unit value
	1,000 t	*USD 1,000*	*USD/t*	*Euro/t*
China	1,224.24	800,751.00	654.08	519.11
Argentina	100.05	93,666.00	936.19	743.01
Spain	50.61	115,967.00	2,291.39	1,818.56
Italy	9.21	24,629.00	2,674.16	2,122.35
France	13.44	41,185.00	3,064.36	2,432.03

Source: *Accord Associates, based on USDA data*

Garlic imports into the EU from non-European sources increased from 2005 and peaked in 2007 at 93,000t but then decreased over the next two years (Fig 4.4). Two countries dominate the imports, China and Argentina. The increase and subsequent decline in imports appears to be most correlated with Chinese supplies, sendings from Argentina are reasonably consistent over the five years at 18,000 to 20,000t/year. In contrast, Chinese sendings to the EU varied from 42,000t in 2005 to 64,000t in 2007. Imports are increasingly being dominated by these three countries, Egypt, Chile and Mexico: sendings from "other countries" have steadily declined over the last five years. The only

sendings from Africa were supplied by South Africa (RSA) and Zimbabwe who, between them, in most years sent a total of 30 to 40t. It is possible that this may be dried garlic.

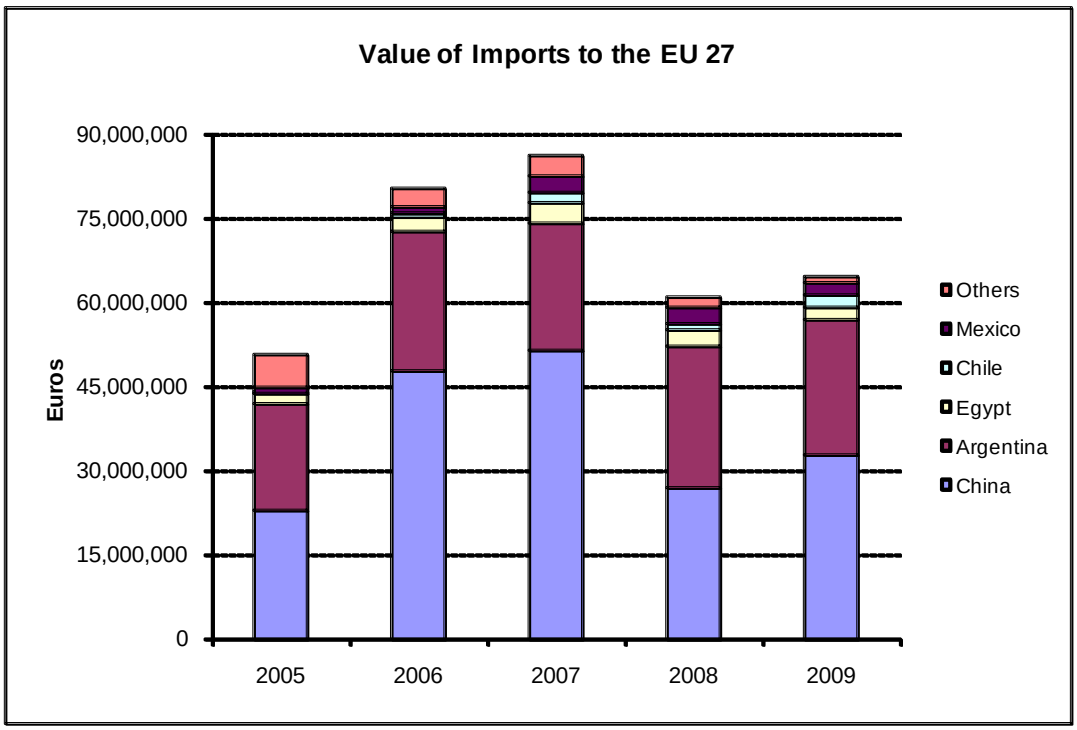
Fig 4.4 Origin of garlic imports into the EU, 2009



Source: *Accord Associates, based on Eurostat data*

Since 2005, the total value of garlic imports into Europe varied between €50 and 86 million/year (Fig 4.5). It is interesting to note that the steady increase and decline seen in the total tonnage imported is not quite reflected in the total value of imports, meaning that there must be some changes in average prices over time. In particular, the increase in value between 2005 and 2007 and the decrease between 2007 and 2008 must have been influenced by changes in average unit values.

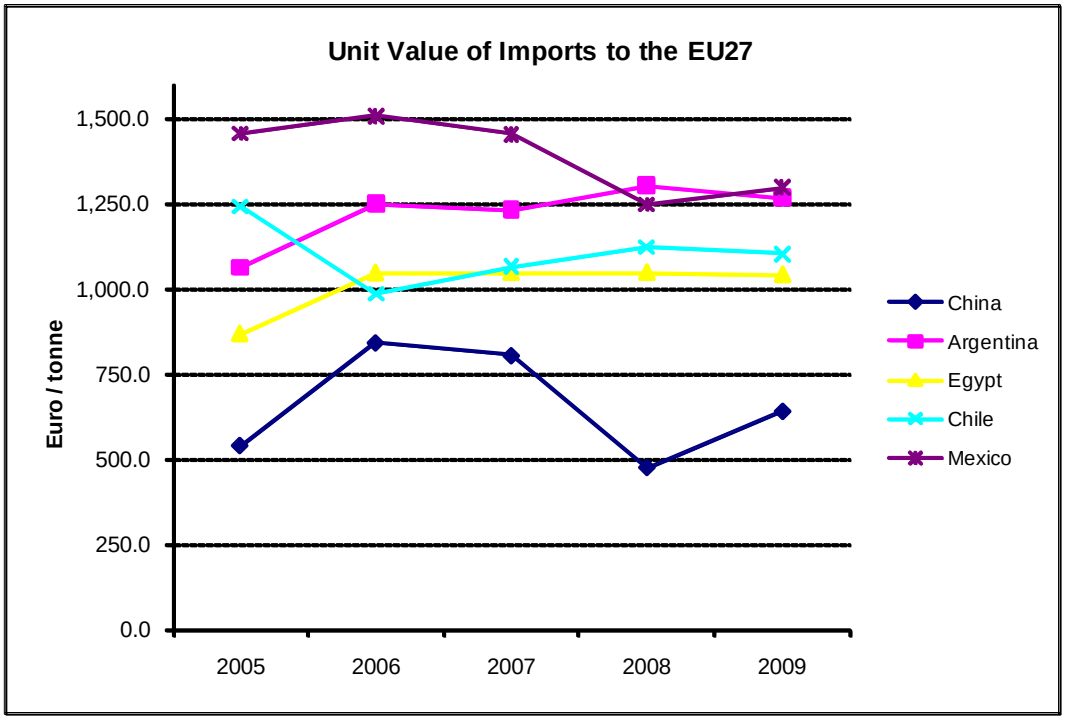
Fig 4.5 Value of garlic imports into the EU, 2009



Source: *Accord Associates, based on Eurostat data*

The cheapest imports of garlic coming into the EU are from China at between €500 and 800/t (Fig 4.6). Not only is it the cheapest source, it shows the biggest variation in prices from year to year, both in absolute and percentage terms. The most expensive source of garlic was Mexico, which was about double the price of Chinese. Argentinean garlic was about €500/t more than Chinese. It is therefore obvious that Chinese garlic is the cheapest source for the EU market. There are very few consistent trends in average unit prices; the highest price source, Mexico, would appear to be in decline in contrast, prices of Argentinean and Egyptian would appear to be increasing slightly. Chinese prices are just erratic. It must be noted that the average prices from the Eurostat data (ie Fig 4.6) are higher than the USDA information (Table 4.1); this is probably a reflection that the Eurostat will include transport costs whereas the USDA data may be FOB (Free on Board).

Fig 4.6 Value of garlic imports into the EU, 2009 (€/t)

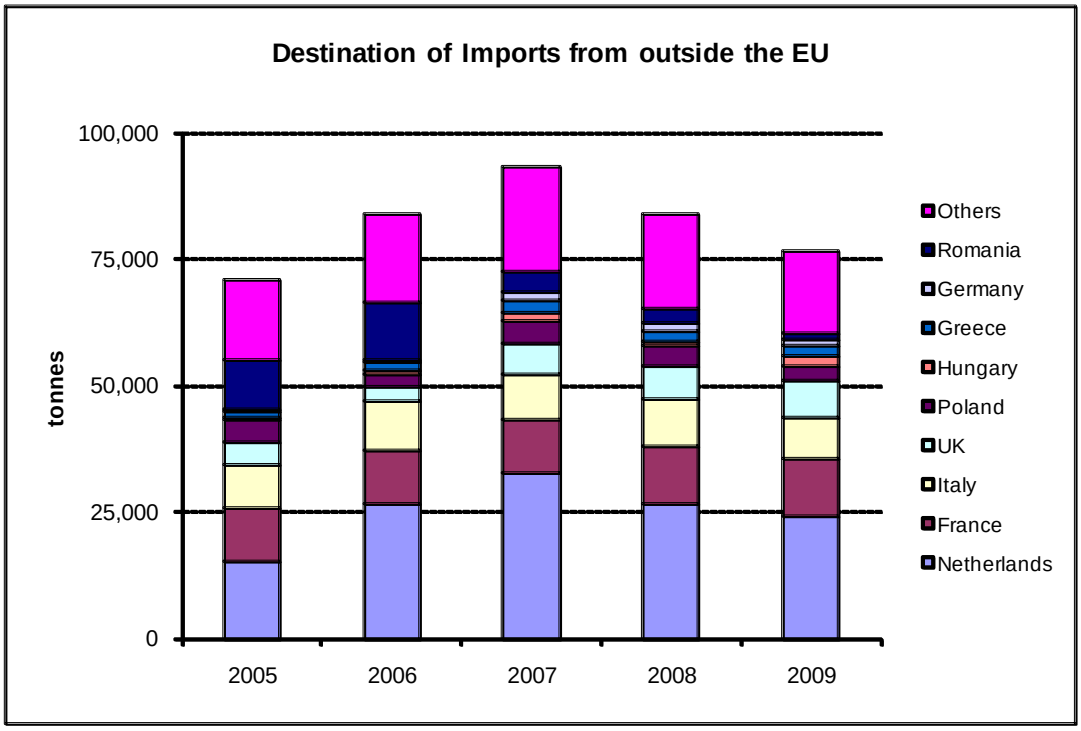


Source: *Accord Associates, based on Eurostat data*

The main destination for the imports of garlic is the Netherlands followed by France, Italy and the UK. However, this probably reflects the importance of the Netherlands as an entrepôt; much of the garlic will be re-exported into other Northern European countries such as France, Germany as well as the Scandinavian and other Benelux countries. These data do not reflect the total size of the market in each of the countries because Spain, Italy and France export about 75,000t/year (Table 4.1); most of this will be to neighbouring countries.

In summary, the EU garlic trade is very significant;, it is very much dominated by China and besides the main five countries supplying the market there are very few other significant sources.

Fig 4.7 Destinations of garlic imports into the EU, 2009 (t)



Source: *Accord Associates, based on Eurostat data*

4.3 MARKET CHAIN

The requirement for import licences does impact on the market chain. Some of the large fruit and vegetable importers have not bothered with garlic because they did not have licences. In contrast, other importers made a strategic decision to buy licences from other companies so that they have become major players in the trade. Therefore, there is a small number of large players and many small operators, which makes for more of a fragmented chain than is normal in the fresh produce industry.

Many of the importers imported in 10 kg string bags and then they would repack into smaller units for retailing. There is some demand for garlic to be made into paste or peeled and preserved in white wine vinegar.

4.4 TRADE INTERVIEWS

Many traders interviewed were surprised that Mali would be considering growing garlic for the European market. They wondered whether it would ever be able to compete with imports from countries such as China and Argentina that had access to ports without crossing international borders. There were also some concerns that the climate would not be suitable for the crop.

However, this was allayed by many of them not understanding where Mali was located and the fact that it is already an exporter of horticultural commodities.

Despite a certain degree of scepticism about Mali's ability to compete, there was some interest in another source of garlic because of the turmoil surrounding the Chinese crop in 2009/10. It was reported that garlic consumption was increasing rapidly in China and this has lead to a reduction in product available for export and has forced the price up considerably. Being an annual crop, it is reasonably easy for farmers to respond to higher prices and it is anticipated that there will be increased plantings in Spain and France. Also, countries such as Bulgaria are expected to become more significant players if the prices remain high. It must also be appreciated that if the prices do remain high, then the production in China will also increase to take advantage. It was suggested that China can produce it for about £450/t (USD653/t) and even with duties of €1,200/t (plus 9.6% of the value), the current prices in Europe (up to USD 4,000/t) would make the crop very attractive and should stimulate production. Therefore, the key question that importers raised was whether Mali is likely to be a more competitive place to grow garlic than China; especially bearing in mind the much higher freight costs (Section 1.4).

Importers were asked about quality standards and if Mali was likely to be able to differentiate itself based on taste. It appears that the only variations on quality were skin colour; a premium was normally paid on purple garlic. The variety did not impact on the taste or the price. In the case of Mali, the variety trials being undertaken by IICEM are important as it may help evaluate which varieties are best suited to climate, especially day length.

The quality standards that China sets are very high. Any new supplier must be able to reach the size and physical appearance standards that the Chinese have set.

The opportunities for garlic in Europe are limited. At the current high prices that the new French and Spanish crop are achieving, it might be possible to export at a profit, but these high prices are unlikely to last. More realistically, it is likely that average prices of USD2,500 to 3,000/t can be achieved for good quality, well graded bulbs[25]. These prices are C&F and would include the specific duty and the 9.6% *ad valorem* import duty. Therefore, the effective C&F price before any duty is paid would be in the order of USD400 to 900/t. In Section 1.4, it was estimated that freight costs from Bamako to Europe, were between USD 200 to 300/t, therefore the effective FOB price could be USD150 to 650/t. These simple calculations highlight the importance of the specific duty. If any trader can import garlic without paying the specific duty, then in theory, the FOB price could be well over USD1,500/t. This does also assume that the Mali garlic is of "Chinese-quality" and the bulb size is between 40 to 45mm.

[25] It is recognised that these prices are higher than the current market prices for good quality garlic. However, the prices are high because of a shortfall in supplies from China, but it is expected that they will stimulate production elsewhere in Europe and from other countries that supply the EU. This extra supply will lead to extra production on the market and, hence, prices will fall. USD2,500 to 3,000/t should be sensible longer-term projections.

Garlic can be stored for 12 months; so there is not really any seasonality opportunity. However, the French importers noted that French and Spanish production dominated the market from June through to December and then the Chinese and Argentinean sources dominated for the rest of the year; the claimed that the buyers preferred fresh bulbs. It is not known when the Mali crop comes in, but it is expected that it will have a similar harvest period as the European crop; it may be a bit earlier due to warmer growing temperatures. There might be a chance that if it could be brought to the market before the European crop and therefore achieve "seasonality comparative advantage".

4.5 MARKET ACCESS

The key issue with market access is getting an import licence. Obtaining an import licence is easy; it is just a matter of applying to the relevant authorities for a specific tonnage and a payment of 5% of the €1,200/t levy has to be paid before it is issued. The garlic must be imported within a specified 3-month window. Mali, in line with all non-EU producers, must pay import duties before the goods are released from Customs. Because it is grown in Europe, there are no exemptions even from paying import tariffs.

Obviously, the garlic imports into the EU will have to comply with normal practices associated with the trading of foodstuffs. The consignment must be accompanied by a **phytosanitary certificate:**

- A phytosanitary certificate must accompany every shipment (which will certify the product is free of plant pests and diseases).
- The certificate must confirm that the consignment has been inspected (and signed for) within 14 days prior to dispatch.
- It must be issued and signed by the official national plant protection authority.
- It must be translated if not in English.
- Note – there will be random checks at point of entry to confirm that the certificate is both authentic and correct.

The documentation accompanying the consignment must give sufficient information for the authorities to be able to trace the origin of the product; eg it must state the country of origin, the name of the product and the name and address of the exporter. In addition, it is recommended (by the EU) that the volume or quantity, batch number, detailed description of product (pre-packed or bulk, variety, raw or processed) are also recorded.

The product must not contain any **pesticides banned** by the EU. There is a directive of pesticides banned for use on foodstuffs and an importer cannot import food into EU that has been treated or contaminated with any of the chemicals listed in the directive. The list includes mercury persistent organo-chlorines (including DDT) and other compounds proved to have serious health or environmental problems. No certificate is required to prove that the produce does not contain banned chemicals, but the relevant import authorities will undertake random testing at point of entry, distribution or sale; if any banned products are detected, the importer will be prosecuted and imports will be stopped.

In addition to the regulations on banned chemicals, there are maximum residue levels (MRL) of a chemical contaminant that must not be exceeded in foodstuffs.

The food business, ie importer and/or trader, is responsible for ensuring food safety (this is often referred to as "**due diligence**". A competent authority (Government) is responsible for establishing official control systems and verifying compliance with food law and food hygiene. It should be noted that all EU food businesses must comply with relevant legal requirements. Therefore, an importer is responsible for ensuring that the exporter has treated the consignment in such a way that does not contravene any of the EU regulations and, as part of the importer's due diligence, must be able to supply the importer with evidence of compliance with all the legal requirements. This is often referred to as the requirement for vertical traceability (Article 18), ie the "one up, one down principle" which requires the ability to trace the movement of food at different stages of the value chain. All records must be kept for six months after date of delivery (date of importation).

In addition to the legal requirements described above, it is important that factories meet the standards demanded by the major European retailers. These include the more widespread food safety standards such as HACCP (Hazard Analysis Critical Control Point), ISO (International Organisation for Standardisation) and BRC (British Retail Consortium) as well as any specific standards such as Tesco's Nature's Choice.

4.6 COMPETITIVE/COMPARATIVE POSITION

The comparative advantages for garlic production in Mali are difficult to identify. It is a low value product; therefore the higher freight costs put it at a disadvantage. It is grown in Southern Europe so the EU has put in a system of licences and special duties to protect their farmers. It is a crop that can be stored for a year so there are no seasonality comparative advantages.

What might give Mali a competitive edge is the fact that an importer in France has stated that they will buy all it can produce; however, it is not too sure what price they will pay. The price that farmers receive will depend on whether the importer has a quota to import free of the specific import duty. If it can import garlic free of specific duty, the buying price may be attractive. If the specific duty is levied, then the Mali farmers will find it very difficult to be competitive. There is a role for IICEM to try and lobby on behalf of the exporters to allow Mali garlic to be imported into the EU free of specific duty; this would make the price back to the growers much higher.

There does not seem to be any varietal differentiation between garlic varieties in the market, therefore there are very limited opportunities to be able to create a niche product based on quality.

4.7 OPPORTUNITIES FOR MALI

The opportunities for garlic in Europe are limited. At the current high prices that the new French and Spanish crop are achieving, it might be possible to export at a profit, but these high prices are unlikely to last. More realistically, it is likely that average prices of USD2,500 to 3,000/t can be achieved; these prices are C&F and would be duty paid (ie the specific duty of €1,200/t and the 9.6%

ad valorem import duty be included). There might be a chance that Mali will be able to produce a unique variety that claims a market premium, but it is very unlikely. Therefore, it becomes an issue of whether Mali is able to be competitive at the prices; given the fact that transport costs are much higher than other countries, this must be unlikely.

The basis for this market research was in response to an observation by Les Jardins du Midi that the demand for fresh garlic is "growing exponentially in many consumer markets, particularly European markets". The research did not suggest that the market was expanding exponentially, but there were some shifts in the supply patterns; however, there is no evidence that these changes are likely to be permanent. If there is a structural problem with the supplies from China and prices do consistently rise, then it will stimulate increased production in other countries. Therefore, it becomes an issue of whether Mali has competitive advantage over these other countries.

They key to any success with garlic must be whether Les Jardins du Midi will be able to guarantee a price that will allow farmers and exporters to make a profit. Almost certainly this will only occur if they are able to use a licence that enables them to import free of the specific duties and if most of that benefit will be passed on to the Mali exporters. However, it is extremely risky to base the development of a new export commodity on one importer.

The trials that IICEM are undertaking will give valuable yield information and which will allow potential importers to evaluate quality. With this information it should be possible to evaluate the potential financial and economic returns. However, it must be stressed that long-term guarantees are needed from the importer regarding price; and it would also be sensible if more than one buyer could be found to ensure alternative access to the market.

It is recommended that IICEM:

- Seeks assurance from Les Jardins du Midi regarding the longer-term marketing arrangements. It is also assurances are received regarding the payment of the specific duty and the 9.6% *ad valorem* import duty.
- Evaluates the economic and financial profitability of garlic production based on the buying price that Les Jardins du Midi will offer. It would also be necessary to evaluate profitability on the basis of a market price of USD2,500 to 3,000/t; these prices are CF and would be duty paid.
- The development of garlic exports would benefit from the identification of other importers. There was little enthusiasm from the importers interviewed, but once more is understood concerning yield, costs of production and transport, then it would be possible to send samples to buyers. As many of Southern European traders have very close links with Spanish and French producers, it would be more sensible to focus any future efforts n importers in the UK, Germany or the Benelux countries.
- Continues with the garlic agronomic trials so that samples can be sent to the EU for quality assessment. These trials are also vitally import to be able to demonstrate that, despite the small changes in day length, garlic will grow and yield well in Mali.

SUMMARY & CONCLUSIONS

DRIED MANGO

- The EU market for dried fruit is very large (870,000t worth USD2.3 billion/year). However, the market for dried mango is only a small portion of this, probably about 2,000t worth about USD13.8 million.
- About 10% of the dried mango is imported as organic/fair-trade, mainly from Burkina Faso.
- Most of the dried mango is imported from South Africa which is conventionally grown. The South African production is generally regarded as much better quality than the produce from Burkina Faso.
- Prices for organic and South African produce are very similar; about USD6,900/t. Therefore, there is no premium for organic fair-trade compared with the better quality conventional product.
- There is some evidence that Burkina Faso is not able to meet the organic/fair-trade market.
- There are definite structural problems in South Africa which make it impossible for South African produce to meet the conventional market demand.
- Other countries are considering targeting the void left by South Africa's inability to meet market demand. For example, countries in South America, Ghana and even Burkina Faso.
- Therefore, Mali has two options. First, to continue trying to target the organic/fair-trade market; there are a number of buyers who would like to receive samples for evaluation. Alternatively, it could develop incentives to attract South African technological expertise and management skills and target the much larger conventional market.
- If the second option is targeted, then it will be important to act quickly and decisively to make sure Mali is ahead of its neighbouring countries.
- The short to medium-term target for organic/fair-trade product for Mali was estimated to be 50 to 75t which would generate a sales value of USD345,000 to 518,000/year. It might be possible to double this in the longer term, but that might mean taking share from Burkina Faso.
- However, the much bigger market opportunity is for the conventional dried mango. In the medium to long term, Mali could target 300 to 500t/year, with a value of USD 2 to 3.5 million/year.

MANGO PURÉE

- Mango purée only forms a very small part of total fruit juice imports into the EU.
- India dominates world trade including the EU market. Latest data estimate that the EU imported 34,000t in 2008/09 from India.
- The trade estimates that 70 to 75% of the fruit juice imported into the EU originates from India, meaning that the total European consumption is about 45,000t/year.
- The trade also states that market demand is increasing; possibly by as much as 5%/year.
- If the three factories achieve 15,000t/year, it will be far too much for the European market to absorb. It will therefore be necessary to identify other markets, probably in the Middle East.
- Two Indian varieties dominate the trade, Alphonso and Totapuri. Alphonso is the high quality variety and dominates products at the upper end of the market. Totapuri is of a lesser quality, its main use being for a "cheap filler".
- The trade is always looking for alternative suppliers to India despite the fact that they produce very consistent products.
- The varieties that are produced in Mali will not allow it to compete with Alphonso; it will therefore have to compete in the Totapuri market.
- Almost certainly Mali will have to compete on price; the chance of the quality being sufficiently special is very slim. Therefore, initially it will almost certainly be sold to the large blenders where it is mixed with other mango purée to make a cheaper product.
- Given that Mali has no obvious comparative advantage for supplying mango purée to the European market, then it would be sensible to target perhaps no more than 5 to 10% of the market in the short to medium term, ie 3,000 to 5,000t worth USD3 to 5 million/year. It is recognised that if the owners of the biggest processing plants in Mali, Comalait Groupe SA, will take most of its output, then these targets will be quickly exceeded.
- It would benefit the fresh export trade as well as the establishment of a mango purée industry if Mali grew a range of good Asian varieties. This might allow the purée industry to establish a reputation for a unique product and get higher prices.

GARLIC

- The world production and trade of garlic is dominated by China.
- It is the largest and cheapest supplier to the EU market, supplying about 50,000t of the 75,000t of imports.
- Most traders believe that any supplier to the EU will have to be able to compete in terms of price and quality with China.
- In order to import garlic into the EU, it is subject to the payment of the specific duty (€1,200/t) and the 9.6% *ad valorem* import duty. This was established to help protect the European growers. However, based on historical imports, importers have a 50,000t/year quota to import garlic from China free of the specific duty.
- Traditionally, market prices have been about US$ 2,000 to 2,500/t.
- Recently, exports from China have declined which has lead to increased market prices. Also, importers are looking for fresh sources of supply, but logically it is likely that existing suppliers will increase their plantings. Alternatively, production in Bulgaria and the Balkans might become very competitive.
- Market prices vary considerably due to quality and bulb size, but a guideline for Mali should be a C&F price of USD2,500 to 3,000/t; this would assume that all duties had been paid. Before any serious efforts are made develop garlic exports to Europe, it is important to seek confirmation of the prices any importer would offer and how they would address the issues of paying the 9.6% *ad valorem* import duty. It is also important that long-term guarantees are given so they will still buy even if current high European prices decline.
- It is important that IICEM investigates the possibility of establishing a bilateral agreement for Mali to access the EU market free of all specific duties and *ad valorem* import duties.

APPENDICES

INTERVIEW NOTES

Gebana Afrique[26]

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Website:	http://www.Gebana.com/htm/Gebana_afrique_e.htm
The Product:	Based in Burkina Faso, Gebana dries a range of tropical fruit for marketing mainly in Europe.

Background: It works closely with farmers' groups in Burkina Faso and has become the main exporters of organic and fair-traded dried fruit as well as other crops such as pineapples and cashews. The office in Ouagadougou also coordinates groups producing smaller amounts in Togo and Mali. The company's head office is based in Switzerland where it coordinates the marketing of similar products from other countries such as Brazil and Tunisia.

Gebana believes that there is considerable demand from the EU market for more dried mangoes. If West Africa is to take advantage of this opportunity, then investment is needed to improve quality, especially the consistency of quality. It is believed that Gebana Afrique exports about 200t of dried mangoes per year. Main competition comes from South Africa and Mexico, but these countries have limited capacity for expansion.

Prices of organic/fair-traded dried mangoes landed in mainland Europe are about €6,700/t. This compares with about €5,200/t for conventional dried mangoes.

[26] This interview was conducted without the interviewee knowing specifically the research was for the benefit of IICEM in Mali.

Tropical Wholefoods

Address:	Tropical Wholefoods, 7 Stradella Road, Herne Hill, London, SE24 9HN, UK
Contact person:	Kate Sebag, Adam Brett (Founders and Directors)
Contact details:	+ Tel: 0845 258 2781. Email: kate@tropicalwholefoods.com
Website:	http://www.tropicalwholefoods.com
The Product:	Buy dried (12% water content) mangoes (from Burkina Faso through Gebana) for inclusion in the manufacture of tropical fruit bars.

Background: Working with ethical businesses, Tropical Wholefoods are fair-trade importers of dried fruits and nuts. It was started in the early 1990s by Adam Brett and Kate Sebag to import and market Fair Trade products from Ugandan smallholders through a company called Fruits of the Nile. They now source produce from a range of countries including Burkina Faso, Zambia and Pakistan. In 2001, it joined forces with Fullwell Mill in Sunderland - it packs dried fruits and nuts and bakes cereal bars. The factory is certified organic and BRC Global Standard Grade A as well as being fair-trade licensed. It retails its products through health food shops, as well as Oxfam, Morrisons, Boots and online.

Dried mango is their main product line. It is a very crowded market with many sources and countries supplying it; they believe there is excess processing capacity, especially in West Africa. There is strong competition from South Africa as well as the Philippines. They do not like the semi-dried product, especially as sugar and other additives are included; they much prefer the leathery dried mangoes.

They estimate that the EU market is in the order of 2,000 to 3,000t/year. They sell diced organic fair-trade produce for about £6,000/t and they buy in undiced product for about $7,200/t.

They purchase from Burkina Faso (Gebana); whilst they are not looking for another supplier, they would be happy to take samples from Mali with the possibility of evaluating quality and maybe in the longterm, importing direct.

Forest Feast

Address: Kestral Foods Ltd, Unit 8,
Carn Drive, Carn Industrial Estate,
Portadown, Co Armagh. BT63 5WJ

Contact person: Michael Hall

Contact details: + 44 283 835 0934
michael@forestfeast.com

Website: http://www.forestfeast.com

The Product: Importer and packer of dried fruit

Background: have imported fair-trade dried mangoes from the Philippines for at least 12 years and pack in smart packaging. The dried mangoes contain a small amount of cane sugar to make the product a bit cheaper.

The market is getting increasingly crowded, with new entrants coming from Thailand, Columbia, South Africa and Sri Lanka.

If importing from Mali, he would need to be guaranteed that the exporter had HACCP, GMP and met Codex minimum standards. Importantly, they must be able to guarantee that they will be able to supply for 12 months – no point in setting up a marketing strategy when there is not consistency of supply.

It is important that only good quality and ripe fruit are used to make dried mangoes. 7t of fruit are needed to make 1t of dried mango.

Evolution Foods

Address: PO Box 4679, Shrewsbury, Shropshire, SY1 9BF, UK

Contact person: James Knott (MD)

Contact details: + 44 1743 341716; mobile 07792 266106
jamesknott@evolutionfoods.co.uk

Website: http://www.forestfeast.com

Also: Russell Tanner, Purchasing Manager,
Unit 1 Leaton Forest Offices,
Leaton Knolls, Shrewsbury, SY4 3HX
+ 44 1939 291954

The Product: Importer and packer of dried fruit and markets under 'Natural Selection'

Interview: imports dried mango from South Africa and re-packs. The EU market for dried mango is big – 2,000 to 3,000t/year. Much more interested in semi-dried product rather than the dried leathery type from Burkina Faso.

However, Evolution Foods are developing their product range and if there are likely to be commercial quantities of dried mango available within the next year or two, they would be happy to see samples as soon as possible and hold preliminary discussions about a more regular supply. If samples are available, please direct them to Russell Tanner.

Besana

Address: Besana SPA, Via Ferrovia, 210 – 80040, San Gennaro Vesuviano (NA), Italy

Contact person: Pia Starace, Import Manager

Contact details: + 39 081 8659111;
Pia.Starace@BesanaGroup.com
Info@Besanaworld.com

Web: http://www.besanaworld.com/

The Product: major purchaser of dried mango in bulk, which it pre-packs and re-exports throughout Europe.

Background: This long-established company (over 85 years) claims to be a major importer and processor of a wide range of dried fruit and nuts. It has a turnover of €170 million, employs 700 people (in Italy and other countries) and processes 20,000t of nuts and dried fruit per year.

Besana is also a significant importer and pre-packer of dried mangoes which it buys from South Africa. They have recently been disappointed that they are not able to get sufficient mangoes to be able to supply all their potential customers. Currently, they import about 70 to 100t/year, but they would like to be able to double this.

They have a sister company in the UK – BesanaUK**,** Unit 80, Randall Road, Rissington Business Park, Bourton-on-the-Water, Gloucestershire GL54 2QB, Tel: 01451 810 023, besanauk@besanauk.co.uk www.besanagroup.com Contact Simon Mellik (CEO) and Sam ?? (Sales Manager).

The UK company coordinates sales to Waitrose and other retail outlets where it has orders to supply about 100t/year and confirmed that it was not able to satisfy all the demand.

The HQ of Besana would like to get another source of RSA quality dried mango. Do not want the Burkina_Faso quality. Both the UK and the Head Office operations would like to be kept informed of Mali's progress and would happily meet a delegation – especially if there was a chance that they would invest in producing a good quality product.

Horizon Foods Ltd

Address: Unit 25, Redburn Industrial Estate, Woodall Road, Enfield, EN3 4LE, UK

Contact person: Mikhail Azar (Director) and his son, Constantine

Contact details: + 44 208 443 3455
Sales@horizonfood.co.uk

Website: http://www.horizonfood.co.uk//

The Product: Purchaser of dried mango in bulk, which it pre-packs

Background: currently a smaller player in the dried mango market. Historically, they have bought from two exporters in South Africa. They regard South African product as the best quality, but are not able to get sufficient supplies – they believe that the South African dried mango is "the correct product". They have therefore investigated other sources, eg South America and India, but with little success. They would need to be able to buy dried fruit packed in 5 to 10 kg bags at a C&F price of about £4.50 to 4.80/kg (USD 6.6 to 7.0/kg) which they would try to retail and sell on at £5.50 to 6.00/kg.

Would prefer it if they aimed to make a conventionally dried product like the South African. Would like to see samples and remain in contact with Mali because the quality of mango can vary considerably from different suppliers. Horizon would be happy to receive a visit from Mali exporters to discuss marketing arrangements further. If the product was good and at the right price, they could be in the market for a few containers of product per year.

J O Sims

Address: Pudding Lane, Spalding, Lincs, PE11 3TJ UK

Contact person: William Watson, Dried Fruit buyer
William.Watson@josims.com

Contact details: +44 (0)1775 842100
enquires@josims.com

Website: http://www.josims.com/index.html

The Product: Buyers of dried fruit and purées

Background: A long-established fruit and vegetable marketing company that has diversified into a range of dried fruits and purées for supplying both the main supermarkets and food manufacturing sector. Currently they pack dried mango for Tesco and Morrisons – they have recently lost the ASDA account due tolack of supply. They currently supply about 200t/year to Tesco, 30t/year to Morrisons. If they had had more supply, they could easily market 200t or more per year.

Their current supplies come mainly from Westfalia in South Africa. The cost of dried mango has recently increased to about £5.00/kg delivered to Spalding. Would like to see a new supplier come in at slightly less – say about £4.80/kg. Currently, they pack in their BRC-accredited warehouses in Spalding; supplies normally come in 5kg bags; any larger bags tens to make the flow on the packing lines problematic.

They would be very interested in another good reliable supplier that produced a conventional product; their advice is "not to bother with Fair-trade and organic certification" because the market is too small, it adds too many extra costs and does increase the margins.

William Watson would like to be kept informed of the progress for developing dried fruit from Mali; he would be happy to meet with potential exporters and show them their facilities and discuss the quality standards that are required. This company would be happy to see samples of good quality product. Note, this is serious company and would probably not be interested if the product was comparable with Burkina Faso quality.

Westfalia Fruit Products

Address: PO Box 2959, Tzaneen, Limpopo, South Africa

Contact person: Alan Snyman, Marketing Manager

Contact details: +27 (0) 11 450 1230 mobile + 27 83 628 3169
alans@hansmerensky.co.za

Website: http://www.westfalia.co.za/Pages/Default.aspx

The Product: One of South Africa's biggest producers and exporters of dried mango.

Background: The company is one of South Africa's largest mango and avocado exporters. Initially, it started dried mango as a means of utilising surplus fruit that could not be exported. However, recently they have been experiencing difficulties because of structural changes in the South African mango industry. There are fewer mangoes being grown, and coupled with a greater demand on the local market, this has forced up the price for the local market. Also, other costs are increasing in RSA, eg the cost of drying and the cost of labour. These issues have meant that they have not been able to purchase sufficient raw material to be able to meet the European demand and their processing costs have increased.

Their strategy to cope with this has been to investigate processing capability to other countries; they have started work in Peru and Brazil. However, they would rather work in Africa as it is a continent they are familiar with and it would be much easier to supply their existing markets than it is from South America. They are talking with a group in Ghana about forming an alliance to produce dried mango. Also, they have been approached by someone in Burkina Faso hoping to utilise donor funds to establish a factory to produce conventionally dried mango. This enquiry was not followed up and his view of Burkina Faso is that their dried mangoes have no consistency of quality which is why they are losing market share. He would be very happy to talk further with Mali entrepreneurs about setting up a factory and transferring technical and managerial skills to establish a new industry that was "different from Burkina Faso".

He believes that the total consumption of dried mango in Europe is at least 1,200t/annum, but it could be a lot more if product was available. They "have markets which they have simply not been able to supply" because of product. Target selling price for Mali dried mangoes should be £4.80 to 5.00/kg delivered UK. There could be an opportunity to produce and market an extra 200 to 300t/year of dried mango from a new source like Mali. Also confirmed that Kent is a good variety to produce mango from.

Westfalia would be happy to discuss cooperation further and meet with potential Mali exporters to discuss transfer of technology and establishing an industry.

Neltropical Fruit (Pty) Ltd

Address: 450 D F Malan Drive, Pretoria West, 0001, P O Box 14665, Lyttelton, 0140, RSA

Contact person: Rachel Maartens, Manager

Contact details: + 27 (0)12 323 9200 mobile + 27 83 628 3169
alans@hansmerensky.co.za

Web-site: http://www.neltropica.co.za/

The Product: A South Africa producer and exporter of dried mango.

Background – The company was started in 2003 to assist farmers with the production and marketing of dehydrated agricultural produce; mainly fruit and vegetables. One of its important lines is dried mango. The company is 100% women-owned and is Broad-Based Black Economic Empowerment (BBBEE). The company is also a founder member of an industry level service organisation, Agri Dryers of Southern Africa (ADSA), to act as a governing body for the dehydrated subtropical fruit industry. It undertakes training courses in the Principles of Drying and Juicing, Food Handling and the Implementation of HACCP is presented under the guidance of the South African Qualifications Authority (SAQA). Neltropica has a processing plant in Tshwane Market in Pretoria which serves as demonstration and training unit. It procures raw materials and ingredients from different suppliers and then processes and packs to order. The mangoes are dried and preserved without the use of sulphur and have a proven shelf life of at least 12 months. It exports to Europe (mainly the UK), Australia and the Far East and the Middle East.

Neltropica is part of the Agribusiness Development Corporation (ADC), which identifies, evaluates and helps establish agro-processing processing facilities in Africa and the Indian Ocean Region. The ADC has been invited to visit Ghana with the intention of establishing a factory to produce dried mango. Neltropica and the ADC would be happy to work with Mali to establish improved facilities by sharing technology, management and possibly marketing arrangements. It would be happy to show potential entrepreneurs their facilities in Pretoria and then come to Mali to undertake a feasibility study.

Biofruisec

Address : 640 Rue du Jeu d'Arc, 60490 Margny on Matz, France

Contact person : Jean-Marie Lamaud

Contact details : + 33 3 444 25161
biofruisec@online.fr

Web-site: http://www.biofruisec.com/

The Product: Purchaser of dried mango in from Cameroon

Background – Biofruisec are importers of organic produce from around the world. They bring in dried mango from Cameroon; they also import dried papaya and banana from Cameroon, dried pineapple from Togo and dates from Algeria. In the Cameroon, they make dried mango from the traditional, wild, green varieties. These fruit do not contain fibre.

Jean-Marie knows a lot about West African dried mangoes. He states that he would **not** be interested in dried Amelie; it is a bit acidic and has no aroma; his customers have rejected it in the past. However, it is possible to produce reasonable quality dried mango from Kent and Keitt.

His guideline buying price is €7 to 8/kg ex-Cameroon, which he admits is a higher price than being paid for Burkina Faso produce, but he claims the quality is better and as he sells direct to retailers, he is able to reduce some of the marketing intermediaries and pay the farmers a better price. Currently he imports about 30t/year; the current economic crisis has negatively impacted on sales, but he expects that trade will recover in the future.

He would like to be kept informed on the progress Mali makes as a supplier of dried mangoes and would like to see samples with a possibility of being able to buy from them. Is slightly worried that if the industry in Mali expands, quality of the fruit might deteriorate; implementing good quality methodology is extremely important.

Western Organic Commodity Services

Company: Western Organic Commodity Services

Contact person: Richard Stoker

Contact details: + 44 1884 839 710 & Email: enquiries@westcommorganics.com

Web-site: http://www.westcommorganics.com

The interview – the company buys dried fruit and nuts from traders; its only interaction with dried mango is that it provides a service of dicing them for another customer. Has been approached by donors to assist with development of dried fruit exports from Iran and Afghanistan, but put in a lot of time for very limited rewards. He is therefore not very interested in developing dried mango as one of his lines.

Demos

Company: Demos

Contact person:

Contact details: + 44 0207 626 1121

Web-site: http:// www.demos-uk.com

The interview – a major importer and packer of dried fruit – but do not bother with mango. They concentrate on the bigger lines such as dates, figs, raisins, sultanas, cranberries etc. Therefore not interested in buying dried mangoes.

Daco-Bello

Address: ZI Via Luigi Galvani, 92160 ANTONY, France

Contact person: Carol Belly

Contact details: + 33 1 40 96 2929
C.Belly@Daco-France.fr

Web-site: http://www.dacobello.com/index.php?id=6

Background – A very big French importer and packer of dried fruit which are sold under the name Daco Bello and they also contract pack for other retailers. Over 70% of their inputs are imported from outside of France. Despite being a major player in the French dried fruit market, they do not import dried mango. What little dried mango they use, they buy from a French-based trader. A request was made to give the name of the trader, but this was not forthcoming.

Dermot Cassidy

Contact person : Dermot Cassidy

Address: Pretoria, RSA

Contact details: + 27 12 809 0867 mobile + 27 83 290 6246
dermot.cassidy@gmail.com

Specialty : Technological consultant based in RSA with extensive experience of working for NGOs such as TechnoServe

The interview – has worked on fruit drying technology. Confirmed that RSA mango crop is declining, market prices are increasing and the processing factories are finding it increasingly difficult to get raw material. Some factories have had to reduce their quality standards to get sufficient raw material which was negatively impacting on the quality of the end-product. One of the key factors of getting good quality dried mangoes is to use blemish-free ripe fruit. If the fruit are under-ripe, there is not sufficient taste and sugar; over-ripe fruit give problems with shelflife. The RSA companies have developed technologies to store semi-dried product **without** the addition of sulphur.

Tradin Organic Agriculture B.V.

Contact person: Tom Wiegmans

Contact details: +31 (0)20 4074454 &
Tom@Tradinorganic.com

Web-site: http://www.tradinorganic.com

The interview – based in Holland, the company claims to be a big buyer of organic produce. It buys dried mango from South East Asia and Mexico but cannot get enough. Currently it buys about 20t/year and would like to double that amount.

Also a buyer of organic mango purée which it on-sells to the food manufacturing industry. Currently it buys about 300 to 400t/year; about half of which is organic Alphonso from India, the other half is a range of varieties. They would much prefer Mali as a source if it had better varieties, but might be interested in purchasing up to 100t/year of Kent purée. The price they are currently offering is about USD1,250/t.

Given that they are having problems with getting sufficient dried mango, they would like to be sent samples of dried mango and be kept informed of the progress of IICEM's involvement.

Kluth

Contact person: Alex

Contact details: +49 4193 9662-0

Web-site: http://www.kluth.com/index.html

The interview – trades some organic dried mango which he buys from an importer, would not say how much, where it came from and how much he paid for it. Was not interested in Mali produce because he reckoned it was not safe. He would not entertain the possibility of importing direct despite being told that Mali actually already successfully exported a range of products to Europe.

Food News

Contact person: Neil Murray

Contact details: + 44 207 0177 500 & Email: Neil.Murray@Informa.com

Web-site: http://www.agra-net.com

The interview – India produces 12 to 14 million t of mango, of which 300,000t of purée of which 180,000 is aseptically packed. 180,000t is exported, 20% of which is to the EU. Middle East is the biggest export market, but the demand from this market is declining. Demand in India is increasing quickly resulting in higher local market prices and this may put some pressure on international prices. The Indian market is moving towards tetra-packed juices.

In addition to the problems caused by the growth in the Indian local market, there is some turmoil in the Middle East; the recent economic problems in Dubai has seen demand for the Middle East decline. In addition, the much higher productivity in the Brazilian orchards will put increasing economic pressure on the Indian processors – though of course they will never have their quality. In addition, processing in the Philippines is becoming more and more competitive.

Overall, the Indian processors still control the market because of their quality and vast productive capacity. There are often stories about crop productivity declining; the current one is that it is projected that Totapuri production is down 40% for the upcoming season. Currently prices are high prior to the start of the new Indian season; Alphonso sells at about USD 1,200 to 1,300/t (delivered and duty paid to European port). Alphonso is never traded as concentrate; the theory is that the removal of the extra water reduces the taste quality. As a rule of thumb, concentrated Totapuri sells at about the same price as single strength Alphonso – currently this rule of thumb applies; Totapuri concentrate prices are USD 1,200 to 1,300/t.

India has to pay import duty on mango purée; ranging from 9% on frozen juice, 10.5% on concentrate and 11% on single strength. Brazil also pays 10.5% duty. Freight costs from India are about USD100 to 115/t.

Doubts whether Mali can compete, especially if transport and energy costs are high. If any country can compete in the EU market, it is probably Mexico. Perhaps, Mali might be better targeting the Middle East, East Europe and the ex-Soviet Union countries. There might also be an opportunity for fair-trade and organic; he thinks that there might be considerable demand for such products, but whether they will pay a premium is debatable.

ASDA Supermarket

Address: ASDA House, Southbank, Great Wilson Street, Leeds, LS11 5AD, UK

Contact person: Chris Brown, Fruit Juice buyer

Contact details: + 44 113 241 8208
Chris.Brown@asda.co.uk

Web-site: www.asda.co.uk

The Product: Major UK supermarket chain.

Interview – supermarket buyers do not normally do interviews. Confirmed that one of the main uses for mango purée is for smoothies, a market dominated by Innocent.

If Mali wanted to develop organic mango purée, the obvious place to try would be the baby food market. There might also be opportunities for small-scale manufacturers of "farmhouse" ice creams – or even the larger ice-cream companies that did not necessarily sell on price but quality, such as Ben & Jerry[27].

He believes that the mango supply chain in the EU is well supported and the only way a new entrant could make inroads is to have a better quality product and undercut existing suppliers.

[27] Interestingly, on the Ben & Jerry's web-site, they do not have any ice-cream which has mango in its title (they might contain mango, but do not use it to describe the flavour).

International Trade Centre

Contact person : Charles Barkla

Address: Pinner House, 15, Cliffs Road, St. Clair, Dunedin 9012, New Zealand

Contact details: + 64 3 456 2344 & Email: barklaconsult@hotmail.com

Web-site:

The interview – A consultant who prepares quarterly newsletters on the world market for fruit juices. He confirmed that there is very little published official market information; it is exceedingly difficult to get accurate prices and even harder to understand the volumes traded. World demand for mango juice is increasing in all of the main markets. International trade is dominated by the Middle East and is mainly supplied by India and Pakistan which, because of the large number of Asian migrant workers, have a taste for the flavours of the Indian varieties. Prices are often high in the Middle East.

Many traders are often disappointed by the service they are getting from Indian and Pakistani exporters; eg, too often promises of delivery are not adhered to. This has led to many importers starting to target suppliers from the new world, especially in South America. Most of these new sources tend to supply juice made from Floridian varieties but the preference is for the variety Kent. Most of these supplies are bought by the large importers and they blend the purée with other sources – which helps nullify any variations in quality.

Over the last few years, mango juice prices have been remarkably stable from year to year although there are some seasonal variations. At the moment, Brazil is having a bit of a shortage due to a couple of bad crops, but most of its output tends to be consumed within the country. However, guideline prices for Malian exporters to work with would be USD 1,400 to 1,500/t for concentrate and USD 850 to 900/t for single strength (delivered to a North European port with all duties paid), assuming the variety was Kent; it must be assumed that other varieties would achieve lower prices. Mali would have to expect to benchmark its marketing against Latin American suppliers. Mali should be able to supply to the EU duty free whereas India would have to pay some duties.

There is no tradition of organic mango purée from India; so this might be a small market opportunity for Mali.

Innocent Ltd

Address:	Innocent Ltd, Fruit Towers, 1 The Goldhawk Estate, 2a Brackenbury Road, London W6 0BA, UK
Contact person:	Jessica Sansom, Head of Sustainability
Contact details:	+31 (0) 20 486 9894 (based in Netherlands)
Head Office contact details:	+ 44 20 8600 3939 email: hello@innocentdrinks.co.uk
Web-site:	http://www.innocentdrinks.co.uk
The Product:	manufactures fresh fruit smoothies and is a significant buyer of mango purée.

Background – Innocent Drinks is a UK-based company founded in 1999 whose mainbusiness is producing smoothies which are sold mainly in supermarkets, coffee shops, etc. Initially its market was in the UK, but now it is sold in most countries in Western Europe. It claims to have over 70% share of the £169m UK smoothie market. The company was established by three Cambridge graduates but in recent years Coca Cola have started to invest and their shareholding recently increased to 58% (April 2010). Turnover was USD 214 million in 2008 and it has increased since and is expected to keep expanding with the recent acquisition of shares by Coca Cola.

Innocent is a significant buyer of mango purée; at the moment they use 4,000 to 5,000t/year but expect this to double in the next four to five years. They currently only use purée from the Alphonso variety purchased from India but are considering using some cheaper varieties, but are not interested in the Floridean varieties such as Keitt and Kent. They do not know the variety Amelie and might be interested in testing its suitability for their products. They do have some issues with their current supply base which is why they might be interested in finding out more about Mali as a source. They are concerned that there might soon be a shortage of appropriate mango purée from India due to global warming reducing the availability of mangoes from the main Alphonso-producing areas and the increased demand for pulp from the local Indian industries. They have already noted that this has lead to an increase in price. Innocent would be interested in testing samples of Amelie from Mali as they want to diversify their supply base.

Innocent have a sensible view of standards; they do not demand fair-trade or organic, but work with each supplier to determine the appropriate standards.

The price paid reflects current market prices.

Cobell Ltd

Address: Cobell Limited, Alphinbrook House,
Alphinbrook Rd, Marsh Barton Estate,
Exeter, UK, EX2 8RG.

Contact person: Nick Sprague, CEO and Founder

Contact details: +44 1392 430280. Email: info@cobell.co.uk

Web-site: http://www.cobellfruit.co.uk

The Product: supplier of fruit juices and purées to the food industry.

Background – Founded in 1999, Cobell has quickly grown to becoming one of Europe's leading processed fruit suppliers, sourcing ingredients directly from suppliers all over the world. Currently, it has a turnover of about £50 million and employs over 40 staff, some are multi-lingual. Its accreditations include BRC, Soil Association, Taste of the West, Fair-Trade, Rain Forest Alliance, etc. It is based in Exeter and with a sales office in Bishops Stortford.

Cobell are the second supplier of mango purée to Innocent and other customers. They recognise that the consumption of mango puréee in Europe is expanding quickly. They import almost entirely from India the Alphonso variety for Innocent and Totopuri for other customers. They also recognise that, in the future, there may be a shortage of Alphonso and it will become more expensive. Therefore, there is need to identify new sources; they are developing a new supplier in Kenya who uses an Asian-type variety as the raw material. Because of the potential problems with Alphonso and India, they are interested in new suppliers in Africa. However, they recognise that purée made from Kent and Keitt will not command premium prices. However, they might be interested in purée made from Amelie.

Prices paid for mango purées in 2009 were USD 960/t for Alphonso delivered to Rotterdam and USD810/t for Totapuri; both ex-India. These prices are expected to rise in 2010; a reasonable guideline price for Mali mango purée would be mid-way between these two if Amelie was of good quality, and a little less for the Kent and Keitt varieties.

Cobell would be very interested in being kept informed with the progress of the mango purée industry in Mali and would like to be invited to become more closely involved with developing market opportunities.

Malawi Mangoes

Address: 5 Iliffe Close, Reading, Berkshire, RG1 2QE, UK

Contact person: Jonny Jacobs

Contact details: + 44 115 216 5797 mobile + 44 7528 959227
jonny@malawimangoes.com

Web-site:

The Product: Purchaser of dried mango in bulk, which it pre-packs

Background – Jonny and Craig Hardie have established Malawi Mangoes to try and add value to the mangoes in Malawi that are going to waste. They plan to process them into both dried mangoes and purée. They are trying to get added premium by producing organic and fair-trade product. They are getting technical support in-country from the NGO, TechnoServe. They have a Malawian-based partner who has the equipment (gas-fired ovens) to produce dried mangoes and they would market the product in Europe.

They are putting considerable effort into working with Indian companies to produce mango purée. They have been in conversation with Innocent Smoothies about supplying them. Also, they are talking with Jain Industries about getting improved varieties and mango processing technology. Their plan is to undertake a massive programme to "top work" many of the native mango trees using budwood from India of varieties suitable for processing – mainly Alphonso, but also Totapuri. This will give them the raw materials for establishing a processing facility; they hope that the top working will quickly allow processing to start. They believe that they will receive USD1,800/t for Alphonso delivered to Rotterdam and that the business projections show a massive profit; half of which will be transferred back to the community.

Author's note *- If producing mango purée in Malawi can work, then it should be extremely easy for Mali. They will have some problems; the mango season in Malawi is in the middle of the rains so getting disease-free fruit will be difficult, top-working of the trees with Indian bud-wood might not be as easy as planned. The cost of operating a business in Malawi are expensive; it has an overvalued currency meaning exports are often not competitive and freight rates to Europe are high. On the positive side, Malawi is a country with cheap labour (USD1/day) and access to the large Middle East market is probably easier than for Mali.*

AgroFair

Address:

Contact person: Wim Spieringhs

Contact details: + 31 681878186
wim_online@gmx.net

Web-site: http://www.agrofair.nl/pages/view.php?page_id=202&taalCode=UK

Background – An enthusiastic advocate for fair-trade and organic produce from Africa. His main line is promoting fair-trade pineapples from Ghana. In Ghana, AgroFair is producing fair- trade organic pineapples on an own nucleus farm together with local partner. In addition there are outgrowers who sell their produce to the joint venture. It is difficult to find suitable farmers to work with and it is very difficult to rehabilitate farmer groups once they have collapsed because the farmers lose confidence with the group. It is company policy for AgroFair to invest in Africa small-farmer production.

Dried mango is a very small closed market opportunity with limited opportunities. If the market demand increases, this might mean opportunities for new entrants. Another problem is that there are no big importers, just a lot of small importers. Some of the dried mango goes into baking and yoghurt. Most of the dried mango comes from Burkina Faso.

There have been a lot of efforts to promote fruit juice production in West Africa with investment coming from the West, including soft loans from donors. There have been very significant investments in Burkina Faso, including a tetra-pak line (funded by the World Bank). They have concluded that marketing into the EU is difficult because it is an expensive product to process and transport; ie it is difficult to compete. In addition, many of the processing plants in Ivory Coast that were run down during the country's troubles are being rehabilitated. The production and processing of mangoes takes place in the north of the country, reasonably close to the Mali border. Purée made from Brooks has good Brix levels; Amelie is an early ripening variety and helps give a long processing season. Believes Amelie will produce better purée than Kent or Keitt.

Most of the imported mango purée is destined for fruit cocktails. Mali needs to look for niche opportunities; perhaps organic and fair-trade. But they must make a considerable effort to only produce good quality. Importers control the supply chain and it will be essential to get guarantees from them before the start of processing.

AgroFair is a COLEACP member and they develop an owner-assistance program called AgroFair Assistance and Development which identifies and supports (technically and financially) groups of farmers.

Juice World Ltd

Address: 15 Southgate, Chichester, PO19 1ES, West Sussex, UK

Contact person: Olija Williams (juice buyer)/Peter Cox (MD)

Contact details: +44 1243 771948

Web-site: http://www.juiceworld.net

The Product: Importer and trader of fruit juices.

Interview - 80% of their sales are apple, pineapple and citrus juice. Mango juice sales are very small; probably sell no more than 150t/year. Buy mango juice from Indian and Columbia.

Current prices are Columbia USD950/t, Indian Alphonso USD 1,200 to 1,300/t and Indian Totapuri USD 850/t.

Really very unlikely to be a market for Mali – perhaps they should concentrate on supplying the big two blenders, Doehler and Cargill.

Rubicon Drinks Ltd

Address: Rubicon House, Second Way, Wembley, Middlesex, HA9 0YJ, UK

Contact person: Mary Boulton

Contact details: + 44 208 900 9944
Mary,Boulton@AGBarr.co.uk
marketing@rubiconexotic.com

Web-site: http://www.rubiconexotic.com/about_us.html

The Product: Retailer of exotic drinks.

Interview – A company that specialises in more exotic drinks – in fact their website states that they "have a delicious range of exotic fruit drinks, not only Passionfruit but also Mango, Guava, Lychee, Guanabana, Pomegranate and New Papaya". In other words, it implies that mango is their second most important flavour. Rubicon started with a passionfruit drink in 1982 and followed it up with a "sparkling mango crush". The Rubicon products have a long shelf life; they are pasteurised and sold in either one litre or 288 ml cartons.

Rubicon has a reputation for developing good and strong relations with their suppliers. It does import a reasonably significant amount of mango – probably about 1,500t/year; mostly it is Alphonso from India. They have very strict specifications for what they purchase and any new supplier would have to be able to deliver constant quality throughout the year. They are always on the lookout for new products, but a new source of mango is not high on its list of priorities. Suggest that the first few seasons of mango purée are sold to the big blenders in North Europe and maybe send samples to Rubicon to keep them in the picture.

Rubicon might be a good company for Mali to target once production has started and it is beginning to achieve consistent quality. They want to be kept informed of the progress and would like samples. However, realistically, as long as Mali keeps producing purée from Kent and Keitt, it is unlikely to replace Alphonso as Rubicon's preferred mango.

Döhler Group

Address: Riedstraße, D-64295 Darmstadt, Germany

Contact person: Jan Ustohal

Contact details: + 49 6151 306 1341 +49 6151 306-0
Jan.Ustohal@Doehler.com
marketing@rubiconexotic.com

Web-site: http://www.doehler.com/en/home

The Product: One of the main buyers of fruit juices in Europe.

Interview – This group is a leading international producer of fruit juice concentrates, fruit preparations, blends, compounds, ingredient systems, emulsions, flavours and colours for the beverage, dairy and ice cream industries. It serves clients worldwide as well as European companies and produces many branded products. It has production sites and distribution companies in Europe, Asia and America and employs more than 1,600 employees. It is generally regarded as being one of the two big blenders of fruit juices in Europe. It has facilities in Rotterdam, but its main mango buying and processing operation is near Frankfurt. It buys a very wide range of popular as well as more exotic juices.

They are always interested in possible new areas for mango purée production and think that there might be a good opportunity for West Africa in the long term. They believe that in the long term production of mango purée will not keep up with demand. Either India will have to double its processing capacity or new sources will be needed. Currently, Africa is not a big supplier and the main market is the Middle East. Given the varieties grown and processed in Mali, it will be difficult to go direct to many retailers or smaller companies; the purée will have to be blended. Mango is also used in a number of mixed juice cocktails – often to fill the mixture out (give it some body).

Currently low-end quality mango prices are high because of a shortage of Totapuri from India – prices are probably double those of last year. However, this is not expected to happen. The prices for the Floridian varieties are generally between USD1,100 to 1,350/t. It would be sensible for Mali exporters to budget for prices at the lower end of this range.

If Mali produces the full 15,000t installed capacity, it would need to market that quantity outside of Europe. A company such as Doehler would be able to do that.

Jan would be very happy to receive samples and updates on the progress of a venture in Mali.

Cargills B.V.

Address: Coenhavenweg 2, 1013 BL Amsterdam, Netherlands

Contact person: Patrick Kleij

Contact details: + 33 563 653062
Patrick_Kleij@Cargill.com

Web-site: http://www.cargill.nl/netherlands/nl/home/index.jsp

The Product: One of Europe's three big importers/blenders of mango purée.

Interview – buys the majority of its requirements from India, mainly Alphonso, Totapuri, Keyser; but also buys small amounts of Tommy Atkins and Magdela from South and Central America. Last year purchased about 3,000 to 4,000t (of single strength and concentrate – which equates to about 5,500t of single strength). Sales have been hit by the reduction in demand for smoothies due to the recent European recession. Innocent smoothies have not suffered, but the minor brands and own-labels have. Mango purée is a minor product and much of it is used in multi-fruit blends where the actual variety does not matter, where often only 5% of mango is used. Therefore, it is important that the price is competitive if Mali wants to enter the market. Even though it is often used for blending, it is very important for new entrants to have good and consistent quality.

If the proposed Mali production targets were sold in Europe, it would have a major impact on the market; in fact it would never all be used. It is therefore very important to target other markets, probably the Middle East. This might be difficult because much of the Middle East market is supplied from India in 20kg tin cans and the market has got used to the taste of tin in the juice. A big effort is needed to get the Middle East customers to appreciate pure, uncontaminated mango juice!

Pricing is very dependent on Indian production – this year the projections are for a shortfall in Totapuri which has forced the price up; Alphonso is trading for USD1,400/t and concentrated Totapuri about the same price. Single strength Totapuri is about USD 800 to 900/t. The maximum price that Mali should expect for single strength Kent/Keitt would be no /more than USD800 to 900/t.

Talked about the increasing demand from the local Indian market; stimulated by Pepsi and Coca Cola. This might be expected to create a shortfall on India and then prices might rise. However, if international prices do rise, Indian farmers and processors might increase their investments and output to take advantage.

Gerber Juice Ltd

Address: Mallard Court, Express Park, Bridgwater, Somerset, TA6 4RN, UK

Contact person: David Barber

Contact details: + 44 1278 441 600
David.Barber@gerberjuice.com

Web-site: http://www.gerberjuice.com/

The Product: Major importer and producer of retail packs of fruit juice.

Interview – Gerber were established over 20 years ago and are now one of the biggest UK packers of fruit juice, delivering over 2 million litre of fruit juice/day throughout the UK. Source raw material from about 30 countries and are always seeking new sources of supply. Main suppliers are Brazil (orange) and France (apple). Produce and pack their own brands: Sunpride, Southern Delight and Southern Gold and, under contract, private labels for the main supermarkets as well as Ocean Spray, Welch's, Libby's Organic, Libby's C, Um Bongo, Thomas the Tank Engine Juice drinks and Sunny D.

They import mango from a number of sources but mainly India. Their demands for mango purée are growing rapidly and are investigating new sources. At the moment, they are putting a lot of effort into Kenya where the Asian variety Ngowe is grown in the coastal areas. Currently, they buy between 1,300 to 1,500t/year. Most of it gets used in mixtures with other fruit juices. New suppliers either need to have a unique taste profile (which is why the Ngowe variety is interesting) or be price competitive. As the Mali production will be from Kent, Keitt or Amelie, it is unlikely to have a unique taste, so therefore it must be price competitive.

They have heard that Indian local demand is expanding rapidly and that this might mean less production available for export; but believe it is just a story put round to try to force up prices. As India has such a large production of mangoes, it should be possible to process more if there really is a significantly higher local demand. However, the stories about Totapuri being short this year (2010) have resulted in increased prices; as high as USD950/t delivered to Rotterdam. Think that a sensible longer-term price for Mali mango purée would be about USD850/t.

It is their company policy to evaluate new sources and would be happy to do so with the Mali purée.

Greyfriars (UK) Ltd

Address: New Mill House, Tanfield Lane, Wath, Ripon, North Yorkshire HG4 5EB, UK

Contact person: John Smith (Chairman) and Hamish Anderson (Buyer)

Contact details: + 44 1765 640 395
cjohnsmith@greyfriars.biz
info@greyfriars.biz

Web-site: under re-development

The Product: Specialist importers and retailers of specific vegetables.

Background – Greyfriars specialises in a limited range of fresh produce; it has been growing mushrooms for 20 years in North Yorkshire. During this time it has invested in sweetcorn and garlic storage and pre-packing in its own facilities. It also owns a large family business in Bulgaria where it grows garlic (65ha), onions and other exotic vegetables.

Confirmed that there is a heavy import tax on non-EU garlic which is to protect the European production in Spain and France. Main non-EU country supplying the UK is China. The high import duty has led to some illegal importing of Chinese garlic through other countries. However, Chinese exports are down this year (2010) which has led to considerable turmoil in the market and has placed considerable pressure on the Spanish crop. Garlic can be stored all the year round so there is normally no seasonality in pricing.

Normal prices are in the order of €1,200/t for good quality produce and for average quality about €1,000/t. The preferred bulb size is about 40 to 45mm (diameter).

Costs about £450/t to grow garlic in China, import duties amount to about £1,000/t; therefore Chinese garlic costs about £1,500/t. This has been the price for the last few seasons, but there is currently a shortage from China and the price has risen to £ 2,000 to 3,000/t. These prices are expected to lead to a considerable increase in production from the traditional sources and it is expected that there will be considerable interest from the countries that have recently acceded.

Does not think that growing garlic in a landlocked country makes sense. Mali needs to be sure that the increased consumption in China is permanent and not just in response to the belief that it is a curative for swine flu. He suspects that there are more sensible vegetables to grow for export that do not carry such a large import tariff.

Rural Payments Agency

Contact person: Emma

Contact details: + 0191 273 9696

Specialty: Advice on duties that have to be paid on imports in the EU.

The interview – confirmed that import licences are required for garlic. Need to buy a licence for a 3-month period at a cost of €60/t. When garlic is imported, there is a 9.6% import duty and a tariff of €1,200/t.

Code for garlic is 07 03 20 00 00

Code for mango purée is 20 08 99 48 99

The Garlic Farm

Address: The Garlic Farm, Mersley Lane, Newchurch, Isle of Wight, PO36 0NR, UK

Contact person: Colin Boswell

Contact details: + 44 1983 865378
enquiries@thegarlicfarm.co.uk

Web-site: http://www.thegarlicfarm.co.uk/index.aspx

The Product: Grower and retailer of a limited range of vegetables; specialises in garlic.

Background – need an import licence to bring in garlic because a lot is grown in Southern Europe. Wonders if being an ACP country, Mali could import duty free?

Estimates that duty paid on imported garlic is about £1,200/t.

Is concerned that garlic will not grow well in Mali because there is not enough variation in day length. Even if imported garlic does give reasonably sized bulbs, the second year crop will be much smaller. It is also expensive to import sets; estimates these will cost £5,000/ha.

Wholesale prices in Covent Garden are normally about £1,000/t, but this year they are much more; up towards £4000/t for good quality.

In the longer term, expect that European production will fall and licences will be static, which means that prices will rise.

Minor Weir and Willis

Address: 241 Wellington Road, Perry Barr, Birmingham B20 2QQ UK

Contact person: Steve Swain, vegetable buyer

Contact details: +44 121 344 4554
enquiries@mww.co.uk

Web-site: http://www.mww.co.uk/

The Product: Buyers of garlic

Background – Established in the mid 1960s, MWW is a major marketer of fruit and vegetables to the supermarket and wholesale markets throughout the UK. Would be interested in importing garlic, but there are issues surrounding licences and the payment of duties. Some garlic from China can be imported duty free, but most has to pay a considerable amount of duty. They are occasional importers of garlic; as of July 2009, sea freight from China was USD1,750/container and when all other charges were added (including transport to the depot in Birmingham, the total cost was about USD 3,200 per 20ft container.

Always interested in new supplies of products – and especially garlic because believes that the price is getting higher as the Chinese are asking more money for their garlic. There might be an opportunity for organic or smoked garlic because the Chinese do not do organic – but these opportunities would be small. **He could not stress enough that the quality must be good**. Should be packed in string bags in 9kg cardboard boxes.

Ligne Directe Production

Address :

Contact person : Michelle Trosoldi

Contact details: + 33 563 653062

Web-site: http://www.ldproduction.com

The Product : Importer and pre-packer of garlic.

Interview – imports garlic from different countries including South Africa, Egypt,

Argentina and China. Chinese is cheap, normally 50% of the French prices. French and Spanish production is expensive. Imports of Chinese garlic into France vary from year to year.

In France, 5 or 6 different varieties are grown but they do not differentiate between varieties for marketing. Exception is that purple garlic bulbs tend to be more expensive.

Alexandre Dahan

Contact details: + 44 208 621 9002 Mob :+ 44 07800843056
12 Welsby Court, Eaton Rise, London W5 2EX

Email: dalexandre@hotmail.co.uk

The Product : Consultant who used to be a vegetable importer.

Interview – The UK garlic market is mostly supplied by China, while Spain is a major supplier to mainland Europe. An import licence is required but easy to get for any VAT-registered company or individual. In the UK, the licences are provided by the Rural Payments Agency (0191273 9696) can take 4 to 5 days. Custom code for fresh garlic: 07 03 20 00 00. Mali has no trade preference and will need to pay full duty of 9.6 % and € 120/100kg. No quota on volume and import duty 9.6% applicable the whole year.

Packing normally in 9kg 84/91 boxes per pallet, price today £16.00 per box or £1,778/t delivered to a London depot.

Unilever

Address:

Contact person: Christof Walter, Research Manager Sustainable Agriculture

Contact details: + 44 1234 222 465

Web-site: http://www.unilever.co.uk

The Product : major purchaser of agricultural inputs.

Background – Unilever is a massive organisation employing over 160,000 people throughout the world. It purchases a wide range of agricultural inputs including dried garlic and mango purée. Normally, their inputs are purchased through traders but, recently, Unilever made a corporate decision to try and obtain more of its inputs from small-farmers as part of its sustainability programme and to achieve this, started "Project Sunrise". The first efforts of this initiative are to obtain dried vegetables from small-farmers in Azerbaijan and Tanzania. In Tanzania, the focus is on dried garlic, but it is not working at all well, because "commercially, it does not square-up". Christof was interviewed in case there was an opportunity for the IICEM's garlic initiative to focus on dried produce and also to understand if there were opportunities for purée.

Unilever want use 250 to 300t/year dried product (would require 1,200 to 1,500t of fresh garlic) and would pay about €1,500/t for dried garlic powder delivered to their European factories. Unilever do not pay a premium for fair-trade or organic produce; they are developing their own standards but tend to benchmark against other accepted standards. Dried garlic is a very competitive market and he believes that to compete, the farmers would need to sell the garlic leaves separately. The growers in China get about 60% of their "margin" from garlic leaves and 40% from selling the bulbs to the processors.

It is recognised that if a processing plant were established to dry garlic, it should concentrate on garlic flakes for retail packs, which have better margins, and then use surplus to make powder for the food industry.

Mango purée is not one of their target crops for the Sustainable Agriculture Programme, but has stated that it might become a higher priority. Unilever would like to be kept informed of the progress Mali makes towards becoming a supplier of mango purée to the European market.

The Sustainable Agriculture Programme looks to help new companies become established by supplying some technical support, but do not invest money into the production or processing. The benchmark for the mango requirements is the Indian variety Alphonso and any purée must have some of its taste characteristics.

Les Aulx Du Sud Ouest (SA)

Address : Bâtiment E1 – 19, 8 Rue du MIN, 59160 LOMME, France

Contact person : Johan and Jean-Pierre Foubert

Contact details : + 33 3 20 10 00 11
jvo.aso.nord@wanadoo.fr

Web-site: http://www.lesaulxdusudouest.fr/site.php

The Product : Major importer and trader of garlic, which it pre-packs.

Interview – established 30 years, it is based in the South of France, at the heart of the Midi-region Pyrénée, near the traditional areas of French production. In addition to marketing French garlic, it has been importing it for over 25 years and has acquired a considerable reputation for consistent quality. The company is also an exporter and pre-packer of garlic. Besides garlic, they are also major onion traders as well as garlic processors. All its produce has to be GlobalGAP and HACCP certified.

Would be happy to receive samples. However, French production is on the market between June and December and after that time, imports from Argentina and Mexico.

PARIS AIL

Address : 26 Avenue de Lorraine, Fruileg 112, 94512 Rungis Cedex, France

Contact person: Marc Fichel

Contact details: + 33 1 56 70 27 02
marc.fichel@paris-ail.com

Web-site: http://www.lesaulxdusudouest.fr/site.php

The Product: Importer and trader of garlic

Interview – does not believe that Mali has a chance to be able to compete with other countries. Quotas have been put in place to protect the European farmers and unless the quality is excellent and the price is very cheap, "forget it".

Despite the negativity, he would be happy to talk further and look at samples.

Univeg

Address : P.O. Box 1164, NL-2990 CA Barendrecht, The Netherlands

Contact person: Karl Voight

Contact details: +31 180 695911
KarlVoigt@Univeg.nl

Web-site: http://www.univeg.com/nl/

The Product: One of the world's biggest fresh produce companies.

Interview – Univeg is a Belgian company which in the early 1990s started on an acquisition trail buying some of the biggest fruit and vegetable trading companies in Europe. It now has a turnover of €2.2 billion and employs 8,500 people.

Despite being the biggest fruit and vegetable trading company in Europe, Univeg does not import much garlic. All the licences within the group have been combined and the Italian company at Verona handles imports, mainly from Argentina.

Before Mali can compete it will have to find someone with a licence who would risk using it on a new source; he believes this is unlikely. Recognises that Chinese consumption is going up which is causing some price rises in Europe, but expects that the

Chinese crop will come back in balance again; either the increased local consumption will go down or, more likely, production will go up.

Has promised to feedback any information he gets about garlic that might be of interest.

Roveg

Address: Postbus 309, 2740 AH Waddinxve, The Netherlands

Contact person: Hank Roodenburg

Contact details: +31 180 695911
Hank_Roodenburg @Roveg.nl

Web-site: http://www.roveg.nl

The Product: Roveg recently bought FTK and is a serious garlic importer.

Interview – Roveg must be one of the biggest garlic importers bringing in 50 to 100t/week. They have some of their own licences, or they buy licences from other companies or they will sometimes import on behalf of other licence holders who will clear the goods themselves.

Licences will be a big (costly) issue for Mali, but he is always interested in new products and would welcome new sources of supply to compare with existing ones.